

AMERICAN JOURNAL OF PHILOLOGY

Founded by B. L. GILDERSLEEVE

Edited by
HAROLD CHERNISS

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VOLUME LXI

BALTIMORE: THE JOHNS HOPKINS PRESS

LONDON: ARTHUR F. BIRD

PARIS: ALBERT FONTEMOING

LEIPZIG: F. A. BROCKHAUS

1940



B. G.

General
Walker

CONTENTS OF VOLUME LXI.

No. 241.

	PAGE
The Pythagoreans and Greek Mathematics. By W. A. HEIDEL, -	1
The Fundamental Opposition of Plato and Aristotle. By ERICH FRANK, - - - - -	34
The Meaning of ἐκρήμωπος. By KURT VON FRITZ, - - - -	54
Note on the Apocryphal Oath of the Athenians at Plataea. By DONALD W. PRAKKEN, - - - - -	62
Sublimiter. By EMIL GOLDMANN, - - - - -	66
Lucretius V, 1442. By G. CLEMENT WHITTICK, - - - -	69
The Gens Porcia and Monte Porzio Catone. By GEORGE MCCrackEN, -	73
Note on Aristophanes. By MILTON GIFFLER, - - - - -	77
Note on Aristotle, 'Αθ. Πολ., 54. By BENJAMIN D. MERITT, - -	78
An Emended Oracle. By H. W. PARKE, - - - - -	78
A Note on Isidore. By ARTHUR STANLEY PEASE, - - - -	80
REVIEWS: - - - - -	81
<p><i>The Cambridge Ancient History</i>, XII; Volume of Plates, V (HUGH LAST).—<i>Altheim's</i> A History of Roman Religion Translated by <i>Harold Mattingly</i> (ARTHUR DARBY NOCK).—<i>Ros'</i> Die Mεραβολή (Variatio) als Stilprinzip des Thukydides (JOHN H. FINLEY, JR.).—<i>Robinson and Clement's</i> Excavations at Olynthus, Part IX (ALFRED R. BELLINGER).—<i>Cumont's</i> L'Égypte des Astrologues (H. C. YOUTIE).—<i>Stuart's</i> The Portraiture of Claudius (PAUL A. CLEMENT).—<i>Schadewaldt's</i> Homer und die homerische Frage (HAROLD CHERNISS).—<i>Reinhardt's</i> Das Parisurteil (HAROLD CHERNISS).—<i>Riefstahl's</i> Der Roman des Apuleius (HENRY W. PRESCOTT).—<i>Molt's</i> Ad Apulei Madaurensis Metamorphoseon Librum Commentarius Exegeticus (HENRY W. PRESCOTT).—<i>De Cola's</i> Callimaco e Ovidio (WM. STUART MESSER).—<i>Visser's</i> Götter und Kulte im ptolemäischen Alexandrien (IVAN M. LINFORTH).—<i>Austin's</i> The Stoicheion Style in Greek Inscriptions (STERLING DOW).—<i>Tarn's</i> The Greeks in Bactria and India (C. A. ROBINSON, JR.).—<i>Thomas' Recherches</i> sur le développement du préverbe latin <i>ad-</i> (WALTER PETERSEN).—<i>Simpson's</i> M. Minucii Felicis Octavius (CHARLES UPSON CLARK).</p>	
BOOKS RECEIVED, - - - - -	127

No. 242.

	PAGE
The Background of the Social War of 220-217 B. C. By JOHN V. A. FINE, - - - - -	129
The Fundamental Opposition of Plato and Aristotle (concluded). By ERICH FRANK, - - - - -	166
The Composition of the Tribes Antigonis and Demetrias. By W. KENDRICK PRITCHETT, - - - - -	186
The Athenian Cleruchy on Samos. By EUGENE SCHWEIGERT, -	194
O. Mich. I, 24. By HERBERT C. YOUTIE, - - - - -	199
Valerius Maximus in Certain Excerpts of the Twelfth Century. By DOROTHY M. SCHULLIAN, - - - - -	202
A Note on the New Inscription from Samothrace. By M. ROSE-TOVIZEFF, - - - - -	207
Addendum. By C. B. WELLES, - - - - -	208
Another Literary Papyrus in the Fitzwilliam Museum, Cambridge. By F. M. HEICHELHEIM, - - - - -	209
REVIEWS: - - - - -	211
<i>Roberts' Catalogue of the Greek and Latin Papyri in the John Rylands Library, Manchester, III (W. A. OLDFATHER).—Pohlenz' Hippokrates und die Begründung der wissenschaftlichen Medizin (LUDWIG EDELSTEIN).—Harvard Studies in Classical Philology, Vol. XLIX (WHITNEY J. OATES).—Robinson and Graham's Excavations at Olynthus, VIII: The Hellenic House (AXEL BOËTHIUS).—Bonner and Smith's The Administration of Justice from Homer to Aristotle, II (HARRY M. HUBBELL).—Perry's Studies in the Text History of the Life and Fables of Aesop (ELINOR M. HUSSELMAN).—Zmigryder-Konopka's Le Guerrier de Capestrano (J. WHATMOUGH).—Scharf's Studien zur Bevölkerungsgeschichte der Rheinlande auf epigraphischer Grundlage (NORMAN J. DEWITT).—Hatch's The Principal Uncial Manuscripts of the New Testament (H. A. SANDERS).—Bender's Der Begriff des Staatsmannes bei Thukydides (JOHN H. FINLEY, JR.).—Dörrie's Passio SS. Machabaeorum. Die antike lateinische Übersetzung des IV Makkabäerbuches (ARTHUR DARBY NOCK).—Pfeiffer's Die Netzfischer des Aischylos und der Inachos des Sophokles (ALFRED CARY SCHLESINGER).—Clemen's Lukians Schrift über die syrische Göttin (ERWIN R. GOODENOUGH).—Delcourt's Stérilités mystérieuses et naissances maléfiques dans l'antiquité classique (ERNST RIESS).—Nestle's Der Friedensgedanke in der antiken Welt (AUBREY DILLER).</i>	
BOOKS RECEIVED, - - - - -	255

CONTENTS.

V

No. 243.

	PAGE
The Divine Entourage in Homer. By GEORGE M. CALHOUN, -	257
The Mind of Lucretius. By CYRIL BAILEY, - - - - -	278
On "Twofold Statements." By ADOLFO LEVI, - - - - -	292
Observations on Chronology in Sound-Changes in the Italic Dialects. By A. C. MOORHOUSE, - - - - -	307
Fragments of a Latin Grammar from Egypt. By JAMES E. DUNLAP, - - - - -	330
New Datings for Some Attic Honorary Decrees. By ELEANOR WESTON, - - - - -	345
<i>Fimare</i> in Isidore. By LEO SPITZER, - - - - -	357
The Athenian Secretary Phaidros of Cholleidai. By EUGENE SCHWEIGERT, - - - - -	358
REVIEWS: - - - - -	359
<i>Cameron's</i> The Pythagorean Background of the Theory of Recollection (HAROLD CHERNISS).— <i>Raeder's</i> Platons Epinomis (BENEDICT EINARSON).— <i>Zeller-Mondolfo's</i> La Filosofia dei Greci nel suo Sviluppo Storico. Parte I: I Presocratici, Vol. II: Ionici e Pitagorici (ALISTER CAMERON).— <i>Kern's</i> Die Religion der Griechen. Dritter Band: Von Platon bis Kaiser Julian (IVAN M. LINFORTH).— <i>Schmekel's</i> Die Positive Philosophie in ihrer geschichtlichen Entwicklung. Erster Band: Forschungen zur Philosophie des Hellenismus (PHILLIP HOWARD DE LACY).— <i>Beede's</i> Vergil and Aratus, a Study in the Art of Translation (EUGENE O'NEILL, JR.).— <i>Meritt, Wade-Gery, and McGregor's</i> The Athenian Tribute Lists, Volume I (JAMES H. OLIVER).— <i>Laidlaw's</i> The Prosody of Terence, a Relational Study (ALICE F. BRAUNLICH).	
BOOKS RECEIVED, - - - - -	383

No. 244.

Sophocles on his own Development. By C. M. BOWRA, - - -	385
Alexander's Plans. By C. A. ROBINSON, JR., - - - - -	402
Corinth and the Argive Coalition. By H. D. WESTLAKE, - - -	413
Euripides and Eustathius. By HAROLD W. MILLER, - - -	422
Apollo and the Sun-God in Ovid. By JOSEPH E. FONTENROSE, -	429
Livy as Scripture. By MOSES HADAS, - - - - -	445
Drusus Caesar's Tribunician Power. By ROBERT SAMUEL ROGERS, -	457
Ptolemais and the Archon Sortition Cycles. By WILLIAM BELL DINSMOOR, - - - - -	460
The Term of Office of Attic Strategoi. By W. KENDRICK PRITCHETT, -	469

	PAGE
A New Fragment of A. T. L., D8. By ANTON E. RAUBITSCHKE,	475
P. Aberdeen 18. By H. C. YOUTIE, - - - - -	480
REVIEWS: - - - - -	483
<p><i>Jaeger's</i> Diokles von Karystos. Die griechische Medizin und die Schule des Aristoteles (LUDWIG EDELSTEIN).—<i>Bignone's</i> Studi sul Pensiero Antico (FRIEDRICH SOLMSEN).—<i>Severyns's</i> Recherches sur la Chrestomathie de Proclus, Première Partie: Le Codex 239 de Photius, Tomes I et II (FREDERICK M. COMBELLACK).—<i>Paratore's</i> Introduzione alle Georgiche (JAMES HUTTON).—<i>Ehrenberg's</i> Alexander and the Greeks (C. A. ROBINSON, JR.).—<i>Glötz, Roussel, and Cohen's</i> Histoire Grecque, IV, Part I: Alexandre et le Démembrement de son Empire (C. A. ROBINSON, JR.).—<i>Becker-Freyseng's</i> Die Vorgeschichte des philosophischen Terminus 'contingens' (K. v. FRITZ).—<i>Le Blond's</i> Eulogos et l'argument de convenance chez Aristote (WILLIAM C. GREENE).—<i>Mugler's</i> L'Évolution des subordonnées relatives complexes en Grec (JAMES W. POULTNEY).—<i>Westington's</i> Atrocities in Roman Warfare to 133 B. C. (WILLIAM G. FLETCHER).—<i>Memoirs of the American Academy in Rome</i>, XV (AGNES KIRSOPP LAKE).—<i>Müller's</i> Claudians Festgedicht auf das sechste Konsulat des Kaisers Honorius (LESTER K. BORN).—<i>Rolfe's</i> Ammianus Marcellinus, II and III (CHARLES UPSON CLARK).—<i>Walde-Hofmann's</i> Lateinisches etymologisches Wörterbuch, 3. Auflage, Lief. 10, 11 (ROLAND G. KENT).—<i>Sage and Schlesinger's</i> Livy, XII (Books XL-XLII) (NORMAN W. DEWITT).</p>	
BOOKS RECEIVED, - - - - -	514
INDEX TO VOLUME LXI, - - - - -	516

AMERICAN JOURNAL OF PHILOLOGY

VOL. LXI, 1

WHOLE No. 241

THE PYTHAGOREANS AND GREEK MATHEMATICS.

Historians are not agreed regarding the relevancy of the history of mathematics to the general history of science and philosophy. While Zeller treated it as negligible, except as mathematical concepts entered expressly into a system, some recent historians have regarded it as far more important, some going so far as to assign to it a leading rôle in the story. A story, of course, requires a hero, and Pythagoras would naturally play that part, were it not for the critical examination of the tradition that began, say, with the publication of Zeller's monumental work. In default of so imposing a figure, historians now tend to fall back upon the "Pythagoreans," as one might tell the story of a nation as that of a reigning dynasty; for the Pythagoreans are conceived as the mathematicians *par excellence* of Greece down to the middle of the fourth century, B. C.

Obviously this view has certain formal advantages, which it is not necessary to emphasize. Moreover, the candid student will gladly acknowledge that the concentration on mathematics that favors and accompanies this point of view has been fruitful in many ways. To be sure it is no uncommon observation that the positive contribution of any discussion is apt to be incidental and nearly or quite independent of the preconceived notion as to the angle from which the subject should be approached. It is important, therefore, to determine with what right and in what measure the critical historian may single out the Pythagoreans as especially worthy of playing the leading rôle, even if one grants the preëminent importance of mathematics.

Though our present concern is with the Pythagoreans as mathematicians, one cannot altogether ignore certain data on

which historians rely as evidence of scientific achievements on the part of Pythagoras himself. In this regard contemporary evidence, which we should value highly, is negligible when closely examined. Xenophanes alluded to his belief in the transmigration of souls, significant in reference to his religious views, but of philosophic importance only on certain assumptions that we have no right to make for Pythagoras himself. Much is made of a statement of Diogenes Laërtius¹ that Xenophanes denied that God breathes, it being assumed that he was rejecting the Pythagorean doctrine, attested by Aristotle,² that the cosmos inhales time and empty space from the surrounding infinite. If one adopts this view one does so in spite of several important considerations. For, first of all, the authority of Diogenes is not in itself great, and the passage in which the statement occurs is confused and in part certainly inaccurate, since it asserts that Xenophanes held the doctrine of the four elements. This alone, without other considerations, suffices to show that we have to do with a source on which one may not well rely. However, assuming that Xenophanes really said that God does not breathe, it is not necessary to suppose that he had a philosophical statement to the contrary in mind. He presumably had in mind rather the popular anthropomorphism; for he said that God in no wise resembles man, either in body or in mind—He is all sight, all hearing, all thought.³ That implies that God has neither eyes nor ears. Why should He have lungs? The reference to Pythagoras presupposes that Xenophanes identified God with the cosmos, an assumption that rests on a dubious interpretation of a statement by Aristotle;⁴ but even if one accepts that interpretation as true, there is as good reason to think that he was criticizing Anaximenes as Pythagoras.

Heraclitus also referred to Pythagoras, but in ways that do not warrant one in supposing that he thought of him as in any

¹ IX, 19.

² *Phys.* 213 b 22 ff., *frag.* 201 Rose.

³ The text of Diogenes apparently presupposes this context, for it continues *σύμπαντά τε εἶναι νοῦν καὶ φρόνησιν καὶ αἰδίων*.

⁴ *Metaph.* 986 b 24, *εἰς τὸν ὅλον οὐρανὸν ἀποβλέψας τὸ ἐν εἶναι φησι τὸν θεόν*. Aside from the fact that the Laurentian omits *τὸν θεόν*, the word *ἀποβλέψας* raises questions. It is natural to suppose that here, as at 991 a 23, it means "looking at a model," the usual meaning in Plato.

sort concerned with science or mathematics. "Learning of many things," he says,⁵ "teacheth not understanding, else would it have taught Hesiod and Pythagoras, and again Xenophanes and Hecataeus." Another fragment,⁶ of doubtful authenticity, asserts that Pythagoras practised inquiry more than all other men, and constructed for himself a wisdom that was only a knowledge of many things and an imposture. One suggestion of the text, as it has come down to us, is that Pythagoras culled his wisdom from many books. That might indeed be true, but what we otherwise have grounds for believing regarding him would hardly suggest it. The only real clue to the meaning of Heraclitus is the company in which he places the sage; and one will hardly contend that it suggests scientific inquiry in the sense in which it was practised by Pythagoreans in later times. Certainly it is difficult to associate the imposture charged to him with mathematics or mathematical theories.

On the other hand, Epicharmus at a somewhat later date is seriously invoked as a witness to the mathematical interest of Pythagoras or his Order; for a fragment of his refers to odd and even numbers.⁷ Whether the text is genuine or not, it seems to me incredible that one should think of these terms or of the practice of counting with pebbles as originating with Pythagoras. No doubt odd and even numbers, square and oblong figures were almost as old in his day as they are in ours. To make plausible a reference to a particular thinker it does not suffice to point out something that was presumably the common property of many, if not most men; what one has a right to require is something distinctive, for example, in the connection of ideas.

When one comes to Alcmaeon the case is not quite so simple. There is no doubt that he was a physician of Croton, where according to tradition Pythagoras first established his Order. Of the date at which the medical school⁸ of Croton originated we have no definite knowledge, though certainly it existed before the arrival of Pythagoras; neither is it certain whether it had a

⁵ *Frag.* 40 Diels, tr. Burnet.

⁶ 129.

⁷ *Frag.* 2 Diels.

⁸ This term, commonly used, is apt to prove misleading. We must not think of an organized society in the sixth century. Wherever there were physicians who taught their art to their sons or to others whom they approved, there was a "school."

filiation to any other school, though a relation to the Cnidian is not improbable. As a physician Alcmaeon would most naturally derive whatever medical or physiological presuppositions he made from the school to which he belonged, and there is the best of evidence for the belief that in his time as well as later a physician was generally interested in such scientific researches as were being pressed, as the employment of Democedes and Ctesias by the Kings of Persia well illustrates. Alcmaeon dedicated his treatise to three men reported to have been Pythagoreans, but about whose attainments and achievements we know little or nothing. We may assume, therefore, that he was at least on intimate terms with members of the Order, as would be natural in any case since all concerned presumably belonged to the intellectually more conspicuous group of citizens. This association need not of course imply any formal relation to the Pythagorean Order, nor does it afford any grounds for attributing to it any special interest or direction of research considered as a whole. Later tradition, to be sure, regarded Alcmaeon as a Pythagorean, and that view is still generally accepted. So far as one can see, this assumption can be justified only by a statement in Aristotle's *Metaphysics* which, however, proves upon examination to be at least very dubious. After speaking of certain Pythagoreans who set up a table of ten pairs of contraries—limited and unlimited, odd and even, etc.—he proceeds,⁹ "In this way Alcmaeon of Croton seems to have conceived the matter, and either he got the view from them or they got it from him; for he expressed himself similarly to them. For he says most human affairs go in pairs, meaning not definite contrarieties such as the Pythagoreans speak of, but any chance contrarieties, e. g. white and black, sweet and bitter, good and bad, great and small. He threw out indefinite suggestions about the other contrarieties, but the Pythagoreans declared both how many and which their contrarieties are."

In justice to those who regard Alcmaeon as a Pythagorean it must be added that this version of Aristotle's statement omits a clause asserting that he was <young> in the old age of Pythagoras, which is found in some good manuscripts but wanting in the best. I fully agree with Ross in bracketing it, not only because

⁹ *Metaph.* 986 a 26 ff., tr. Ross.

it is omitted by the Laurentian and is quite ignored by Alexander and is besides otherwise contrary to the usage of Aristotle, but because the text of the MSS that contain the clause is imperfect, since it does not give the inevitable word "young" (νέος). This seems to me strongly to suggest that we have here a marginal note carelessly embodied in the text. One may even conjecture with some confidence the source of the marginal note; for it may well be derived from Porphyry's *Life of Pythagoras* (c. 104), where a long and ill-assorted list is given of the most ancient Pythagoreans who were contemporaries or pupils of Pythagoras, young in his old age (συγχρονίσαντες καὶ μαθητεύσαντες τῷ Πυθαγόρᾳ πρεσβύτη νέοι), including Alcmaeon. If that were true, one readily understands why Alexander could not take account of it.

Now, if we consider the matter more in detail the data regarding Alcmaeon fail to give us much real information. Aristotle, on this view, affords no indication of his date, and Porphyry is as always, except where we can certainly make out his authorities, quite untrustworthy. In this instance he groups as contemporaries and personal pupils of Pythagoras, along with Alcmaeon, such men as Philolaus and his pupil Eurytus as well as Lysis, the teacher of Epaminondas, who must be dated near the turn of the fifth and fourth centuries. Furthermore it is natural to infer that Aristotle had no knowledge whether Alcmaeon was actually a member of the Pythagorean Order; and the way he speaks of the possible relation of their respective doctrines is quite non-committal. To this one must add that from Zeller onward the consensus of scholars has strongly tended to regard the table of ten contraries as a relatively late creation of certain Pythagoreans. It is clear, then, that Alcmaeon affords no criterion for determining what is early and late in Pythagoreanism.

What he had in common with certain Pythagoreans of unknown date is, according to Aristotle, a tendency to look upon things as characterized by contraries. Just why Aristotle should have thought it necessary to ask whether such a natural point of view had been borrowed by either from the other remains a profound mystery, because he himself had emphasized the rôle of certain contraries in the thought of the Ionians, especially Anaximander. Not to mention the common Greek

practice of setting one state in contrast to its opposite,¹⁰ it was inevitable that Alcmaeon as a physician should concern himself with such phenomena as heat and cold, the opposite effects of summer and winter on his patients. If there was anything distinctive of either Alcmaeon or Pythagoreans in this respect we have no knowledge of it. Burnet, to be sure, in his notes on Plato, *Phaedo* 86b f., would have us believe that the doctrine was Pythagorean, though the special form of it there set forth must have been influenced by Empedocles and the Sicilian School. What one may infer from Aristotle's statement is perhaps only that he was aware that Alcmaeon was sometimes regarded as a Pythagorean or, because of the dedication of his book, in close touch with the Order, but that he was not prepared to commit himself on the question of their relations. That, at least, appears to have been his general attitude toward the Pythagorean tradition as we see it reflected in the works of his maturity.

Our present concern being with the history of Greek mathematics and the rôle played by the Pythagoreans in it, it is clear that so far what we know about Alcmaeon throws no light on the subject. It is true that in the Pythagorean table of contrarieties there are several pairs of mathematical concepts; but none of these is attested for Alcmaeon, and the uncertainty respecting his date and that of the table deprives the question of all possible evidential value. The same is obviously true of the only other datum that may be thought to have a bearing on Pythagorean science. Aëtius states¹¹ that certain *μαθηματικοί*, presumably Pythagoreans, held that the planets moved in a sense contrary to that of the fixed stars, i. e. from west to east, and that Alcmaeon agreed with them. While this would not directly throw light on Pythagorean mathematics, if accepted and interpreted as implying that the theory of the *μαθηματικοί* was at least as old as Alcmaeon, it would confirm one's belief in the scientific interest of Pythagoreans at a date presumably before the middle of the fifth century. The character of the

¹⁰ See Burnet, *Early Greek Philosophy*,³ p. 8. Heraclitus only emphasizes what was a common Greek point of view. His merit lies in his attempt to reconcile the oppositions which everyone felt.

¹¹ II, 16, 2-3. The other astronomical views attributed to Alcmaeon are, as Burnet, *E. G. P.*³, p. 110, n. 1, truly says, extremely crude.

text of Aëtius, however, is such as hardly to warrant one in accepting the statement as a fact or in so interpreting it, if it were true; for Aëtius is lavish of statements about Pythagoras that sober criticism must reject, and perhaps the earliest dependable evidence regarding the date of Alcmaeon comes from Greek medical writers of the "Hippocratic" and Sicilian schools in the latter half of the fifth century. The earliest of the "planets" (excluding sun and moon) mentioned are the morning and evening stars, the discovery of their identity being attributed to Parmenides or to Pythagoras. Disregarding the latter, it is possible that the former actually referred to their identity. As for the supposed retrograde motion of the planets, including sun and moon, we know that Plato in the *Laws* still thought it worth while to declare that it was false. We are told that Anaxagoras and Democritus held that all the stars moved from east to west. On the other hand Plato in the *Timaeus* and the myth of Er in the *Republic* represented the planets as moving from west to east. It may very well be true, therefore, that the notion was originated or at least held by Pythagoreans.

It is certain that Plato and his school owed much to the Pythagoreans, and that Socrates had among his associates men who were somehow affiliated with them. It was, however, a revived Pythagoreanism in both cases, and many questions that cannot be confidently answered arise in connection with it. On the surface it would appear that the associates of Socrates were chiefly concerned with religious and moral problems, while Plato and his school debated mathematical questions with Pythagoreans. This appearance may be deceptive. In any case, as we shall presently see, it is difficult if not impossible for the most part to distinguish between what is Platonic and what is Pythagorean. Above all, we obtain from Plato no certain criteria by which one could differentiate between the fifth and the fourth centuries in Pythagorean thought. Since the revived Pythagoreanism died out at the end of the fourth century one turns expectantly to Aristotle and his pupils for information, the more hopefully because Aristotle and his school diligently studied the earlier history of the several sciences. There were, however, marked differences among them, and unfortunately Aristoxenus of Tarentum, who was most deeply interested in Pythagoreanism,

appears in general to deserve little confidence. It seems probable that he was responsible for a good deal that is reported by later writers.

To begin with Aristotle, there are those who confidently cite a statement made by Apollonius, a writer not earlier than the second century B. C., in his *Historiae Mirabiles*, 6: "After these (*sc.* Epimenides, Aristeas, Hermotimus, Abaris, Pherecydes) came Pythagoras the son of Mnesarchus. At first he busied himself with mathematics, i. e. with numbers,¹² but after a time he did not refrain from the miracle-working of Pherecydes." It will be noted that at best we have here witness to concern about numbers on the part of Pythagoras, entirely credible in itself, but giving no real information, because we are left in the dark regarding the way he was supposed to deal with numbers. So much might probably have been said of any man at the time. The circumstance that makes it worth while to cite the remark is that it is supposed to be derived from Aristotle, who would presumably mean that Pythagoras already began the speculations about numbers mentioned as characteristic of Pythagoreans in his extant treatises. There is, however, no reason whatever to think that the statement derives from Aristotle,¹³ who is expressly cited only as authority for several statements in the sequel. It is interesting, however, to note that from the context it would seem to follow that Pythagoras took up Miracle-working after the fashion of Pherecydes after arriving at Metapontum, whereas his occupation with numbers would thus have begun (and ended?) in Ionia.¹⁴ This would be poor evidence for Pythagoras and his Order as the prime movers in the study of mathematics among the Greeks. We may confidently dismiss this datum as of no significance. Elsewhere Aristotle attributed not a single scientific achievement to Pythagoras. Apollonius is known to have quoted as genuine works admitted to be falsely

¹² *καί* is here, as often, defining.

¹³ Rose includes it in Aristotle, *frag.* 191.

¹⁴ The supposed connection of Pythagoras with Pherecydes is referred by some to his earlier, by others to his later years. Iamblichus, *Vit. Pyth.*, 184, represents Pythagoras as returning from Italy to attend him in his last illness. This is very improbable. Whether this statement derives from Aristoxenus, who said that he buried Pherecydes in Delos (Diog. Laërt., I, 118), is not certain, though not improbable.

attributed to Aristotle, and in the present case, where no authority is actually cited, it is more likely that he derived the notion from Heraclides of Pontus or a similar source. It is characteristic of a certain kind of the search for sources that this particular statement should be attributed to Aristotle simply because it precedes several others expressly referred to him. There is no doubt that he had written a special treatise about the Pythagorean doctrines,¹⁵ but there remain some difficult questions regarding its scope.

Perhaps the most precise statement regarding the date of the Pythagoreans known to Aristotle occurs in the *Metaphysics*:¹⁶ "Contemporary with these philosophers and before them the Pythagoreans, so-called, devoted themselves to mathematics; they were the first to advance this study, and having been brought up in it they thought its principles were the principles of all things." Of the nature of this study we shall speak presently; for the moment we are concerned chiefly with the temporal relation of the Pythagoreans. It seems clear that the philosophers to whom they were to be compared as to date were Leucippus and Democritus, who had just been mentioned, not the entire series of thinkers previously enumerated. Unfortunately the statement leaves much to be desired, because it is very vague. Assuming that Aristotle meant that the Pythagoreans were contemporaries of both Leucippus and Democritus and in part earlier than either of them, the time indicated might extend from a date before the middle of the fifth century far into the fourth. That is doubtless true as to the later period, and it may have been the case so far as the earlier date is concerned; but it is not certain that Aristotle meant to say just that. It is quite possible that he meant that the first ones were contemporary with Leucippus and earlier than Democritus, for his expression is singularly wanting in precision. What does he imply in saying that they were the first to advance the study of mathematics? Conceivably he might have meant that the study long antedated them and that their merit lay in notably advancing it; but if so, one learns nothing from him that one could not safely infer from a general knowledge of Greek civilization, which had already attained a high degree of advancement. Again, the state-

¹⁵ *Metaph.* 986 a 12.

¹⁶ *Ibid.* 985 b 23 ff.

ment that they had been brought up in the study implies either that it existed as such before they took it up, or that those who advanced it were not the earliest Pythagoreans. At all events careful attention to Aristotle's statement actually assures us that in the latter part of the fifth century Greek mathematics had attained considerable development, which the Pythagoreans were credited with promoting. The precise date would then depend on that of Leucippus, which is unknown.

Another statement similarly vague also occurs in the same work. "Socrates," we are told,¹⁷ "occupied himself with the excellences of character, and in connection with them became the first to raise the problem of universal definitions—for in the realm of physics the problem was only touched on by Democritus, who defined, after a fashion, the hot and the cold;¹⁸ while the Pythagoreans had before then treated of a few things, whose definitions¹⁹ they connected with numbers—e. g. opportunity, justice, or marriage." We may ignore the reference to definitions by predecessors of Socrates, as they were not definitions at all in the logical sense; but it is worth noting that Aristotle at least affords no comfort to those who attribute definitions of geometrical terms to Pythagoreans before the time of Zeno. What interests us here is that Socrates is dated after Democritus and the Pythagoreans are set down before the latter. If this order is accepted as historically true, the occupation of Socrates with universal definitions must be referred to his last years, and the Pythagoreans who proposed the identification of concepts like justice or marriage need not have been earlier than the last third of the fifth century.

In many passages Aristotle either expressly couples Pythagoreans with Plato or Platonists or else makes statements that

¹⁷ *Ibid.* 1078 b 17 ff., tr. Ross.

¹⁸ Aristotle apparently refers to such things as the description of the fire atoms as little spheres.

¹⁹ Cf. *Metaph.* 985 b 29, 987 a 19 ff. It is curious that Aristotle should regard such identifications as definitions. One should expect him somewhere to refer to the definition of mathematical terms, e. g. such as are required in geometry, but he never does so. At best the statement, *Eth. Nic.* 1132 b 21 ff. *ὁρίζοντο γὰρ ἀπλῶς τὸ δίκαιον τὸ ἀντιπεπονηδὸς ἄλλῳ* might be compared with attempts of interlocutors in Platonic dialogues. See in general, *De Part. An.* 642 a 24 ff.

may sometimes apply to both and sometimes distinguish between them. Doubtless in his lectures he would make it clear to whom he specifically referred; we cannot always distinguish, and even his ancient commentators were often at a loss. What this means is at once obvious. For Aristotle the Pythagoreans were generally of interest chiefly because of their relation to the teachings of the school of Plato in which he was brought up. The subjects of prime importance to him were those debated in the Academy, while he belonged to it, and between him and the leading Platonists, after he had set up his own school. As has already been said, we are frequently unable to assign the various views to their advocates, just because those who heard his lectures were presumably themselves engaged in the debates and hardly needed to be told whose views were being criticized. Though we cannot hope to go far in solving the historical and personal questions involved in these discussions, a general presumption does seem to be created by this state of the record. Whatever may have gone before (the very point that chiefly concerns us at the moment) it is difficult to accept the view, now tacitly assumed by some scholars, that the debates in the Academy, during Aristotle's connection with it, were chiefly concerned with Pythagorean theories and definitions proposed a century or more earlier. When in search of teachings that might seem to foreshadow his own doctrine Aristotle was often compelled to re-interpret the record, not only in regard to the four kinds of causation, but also in regard to other matters. One might easily point out instances where a rather primitive doctrine is set into a very different light because the point of view had radically changed. Unless one bears this in mind one is likely to misconceive entirely the historical development or at least to build a structure of unverifiable and improbable hypotheses.

So far as concerns the chronology of Pythagorean mathematics it seems to be clear that Aristotle does not warrant us in going beyond the middle of the fifth century. Of course one may conjecturally go much farther back, and many have done so and doubtless will continue to do so. That is a privilege any scholar has, provided he is himself aware, and keeps his readers aware, of the basis of his statements. We have therefore to consider the view of the Pythagorean mathematics as Aristotle

saw it. It is surprising how little positive information he gives us on this head, and some of his definite, and repeated, statements are open to the justifiable suspicion of actual misrepresentation.

His most general statement²⁰ tells us that the Pythagoreans were the first to advance the study of mathematics. He does not say what he means by the term, but it is natural from the context to infer that he was thinking principally of their pre-occupation with *numbers*. They thought numbers, as the first principles of mathematics, were the principles of all things. Because they saw in numbers resemblances to things about them, and because the attributes and ratios of the musical scales could be expressed in numbers, and all other things were modeled after numbers, they thought the elements of numbers were the elements of all things and that the whole heaven was a musical scale and a number. As for the elements of number he elsewhere²¹ tells us that they were the odd and the even, or the limited and the unlimited. The examples he gives of the way in which they noted resemblances in numbers to parts of the heavens and how they identified numbers with certain abstract concepts do not add to our knowledge of mathematics, but rather suggest that their method was fantastic and futile, as were the "definitions" he mentions. If these were the best they could offer, they required little serious attention, and there would be no reason to suspect that their geometry afforded examples of terms properly defined. The same may be said of his report regarding the nature of the One and of the Infinite.²² We are repeatedly

²⁰ *Metaph.* 985 b 22 ff.

²¹ *Ibid.* 986 a 18.

²² Aristotle repeatedly says that the Pythagoreans, like Plato, regarded the One ($\tau\omicron\ \epsilon\nu$) and the Infinite ($\tau\omicron\ \alpha\pi\epsilon\iota\rho\omicron\nu$) as substance and not as attribute, and yet divided the latter (*Phys.* 203, a 4-6; 204 a 20-34; cf. *Metaph.* 987 a 134; 1001 a 3 ff.; 1053 b 9-16). One wonders what basis there was for his statements so far as the Pythagoreans were concerned. Possibly he was transferring Platonic expressions to them. One suspects that he had only the expressions $\tau\omicron\ \epsilon\nu$ and $\tau\omicron\ \alpha\pi\epsilon\iota\rho\omicron\nu$ to go on, and interpreted these as implying the substantial existence of the One and the Infinite apart from any entity of which they might be predicated. This interpretation might well be captious; for, when he professes to cite an actual opinion of theirs, he says (*Metaph.* 1091 a 13 ff., tr. Ross), "There need be no doubt whether the Pythagoreans attribute generation to them (i.e. things) or not; for they obviously say that when the One had been constructed (whether out of planes or of surface or of seed or of elements which they cannot express [rather

told that they knew only one kind of number, the "mathematical" or abstract, but that it also had magnitude, or was spatial. Aristotle is apparently puzzled by this contradiction, and it is difficult to believe that any one consciously held these contradictory views regarding the same thing. One is tempted to think that Aristotle combined two classes of expressions, (1) those relating to mathematics and (2) those used in their cosmology. In their reckonings and in their theory of numbers the numerals they employed were naturally those used by everyone else, whether or not they were expressly characterized as abstract. The difficulty, real or factitious, arose from their use of numbers in cosmology. Here the different ways in which Aristotle represents their views raises the question whether he does them justice, for it is hardly possible to regard as synonymous the statements that the concrete things are made of numbers and that they display resemblances to or are imitations of numbers. There are, of course, ways in which one may explain the different statements without impugning Aristotle's veracity or the fairness of his interpretation; but, when all is said, there remains a reasonable doubt as to the actual views of the Pythagoreans that is not removed by referring to the figurate representation of numbers or to the practice of Eurytus. It is more to the point to note that in any case this practice of Eurytus makes it impossible to distinguish between early and late conceptions of numbers among Pythagoreans. To say, as is sometimes said, that Eurytus "still" used the primitive method merely begs the question. We know that, as the pupil of Philolaus, he was approximately contemporary with Plato.

about which they don't know what to say]), immediately the nearest part of the Infinite began to be constrained [rather, reading *εἰσελκετο*, "inhaled"] and limited by the limit." Whatever their *language* might imply, it is fair to assume that they thought of the Infinite, not as a substance, but as an attribute of something that could be inhaled, say breath, or air. Cf. Diels, *Vorsokr.*⁵, I, p. 460, 4 ff. The passage above enclosed in parentheses is explained by *Metaph.* 1080 b 20, *ὅπως δὲ τὸ πρῶτον ἐν συνέσσει ἔχον μέγεθος, ἀπορεῖν ἐόικασιν*. In any case, whatever basis he had for the supposition that the One and the Infinite were substances seems to have referred to cosmology, and so had reference to mathematics only on the assumption that *the cosmos was actually constituted of numbers*. In so far as the Pythagoreans meant that to be taken quite literally, his argument would of course hold good; but it throws no light on their mathematical conceptions.

In all this we discover little that goes beyond the concern of the Pythagoreans about numbers. The table of ten contrarieties contains several mathematical terms, but they may all relate to numbers rather than to geometry. The same is true of the musical intervals and concords and of the harmony of the spheres. As for Pythagorean geometry proper, in which historians of mathematics are naturally most interested, there is, so far as I can see, no certain reference to it in Aristotle. One naturally thinks of the proposition that the square on the hypotenuse of a right triangle is equal to the sum of the squares on the other two sides, which no one, probably, doubts that we owe to the Pythagoreans; but, in the first place, though Aristotle alludes to it,²³ he does not say that it was Pythagorean, and secondly he states the matter as concerned with numbers, using it as an example of demonstration by a *reductio ad absurdum*: the proof that the diagonal is incommensurable results from the fact that odd must be equal to even numbers. He speaks of Pythagoreans as earlier than Plato, but he provides no criterion by which to distinguish later from earlier or to determine the age of a single achievement.

When we come to his pupil Eudemus, who wrote the history of the mathematical sciences, we naturally have great expectations. Unfortunately little remains of his work, and that little has in part to be reconstructed from late sources. In the reconstruction, moreover, due care has not always been taken to avoid unjustifiable assumptions; for it does not follow from the fact that the later tradition dealing with the history of mathematics ultimately depends on Eudemus that it did not suffer additions as well as losses. The situation here seems to be quite parallel to that of the doxographic tradition which ultimately derives from Theophrastus, for it is plain in the latter case that the phase represented by Aëtius was strongly influenced by the school of Posidonius, who followed the Stoic practice of "accommodation" or assimilation of earlier to later doctrines. We know, for example, that Posidonius thought that Parmenides knew the geographical zones.²⁴ When it is reported²⁵ that Py-

²³ *Anal. Pr.* 41 a 26.

²⁴ Strabo, I, 94, repeated by Aëtius, III, 11, 4. Aëtius, II, 12, 1 says that Pythagoras and his followers knew the five celestial zones. This

thagoras and Parmenides regarded the earth as spherical, it is obvious that these views go together. Since every other indication points definitely to the conclusion that the sphericity of the earth was first proposed about the end of the fifth century, one has good reason to suspect that we have in these statements an example of the historical method of Posidonius, of which Galen gives us a good illustration. He says²⁶ that Posidonius ascribed the doctrine of the tripartite soul to Pythagoras, "inferring it from what some of his disciples have written, though no treatise of Pythagoras himself has survived to our time." There being no evidence of Pythagorean writings before the time of Philolaus,²⁷ who lived at most a generation before Plato, the Pythagoreans on whom he relied dated presumably from the fourth century or later, and it is not even necessarily implied that these attributed the doctrine in question to Pythagoras. Probably Posidonius merely found the doctrine stated by some Pythagorean and from its source inferred that Pythagoras himself had held it, because, as he thought, his followers religiously adhered to his views.

It is obvious to any critical student that the reports of Aëtius regarding Pythagoras and the Pythagoreans are so compounded of earlier and later data that they are for historical purposes entirely useless except as they can be checked by reference to others that inspire greater confidence. This does not, of course, mean that Posidonius himself is to be credited with every statement about Pythagoras and Pythagoreans in Aëtius. It is enough for our purposes to know that his method has infected the mass. It is important to bear this in mind in dealing with the history of mathematics, which, as has just been said, derives

looks like another inference to Pythagoras from (late) Pythagoreans, such as we might expect Posidonius to make. Aëtius, II, 24, 9 even attributes the notion of zones to Xenophanes.

²⁶ Diog. Laërt., VIII, 48; IX, 21. From the former passage it seems clear that Theophrastus merely said that Parmenides (first?) used the term *στρογγύλη* as describing the form of the earth. Though it *may* mean spherical, it need not be so interpreted, because it is used in the description of the earth by Diogenes of Apollonia, who thought it a circular disk. Favorinus was the authority of Diog. Laërtius.

²⁷ *De Hippocr. et Platone*, p. 478.

²⁸ Demetrius Magnes, *ap.* Diog. Laërt., VIII, 85.

ultimately from Eudemus, as the doxographic tradition derives from Theophrastus. There is good reason to suspect that the former was subjected to the same influences as the latter. Tannery made out a strong case for the thesis that the summary account of the development of Greek mathematics given by Proclus was directly or indirectly derived from Geminus, and we chance to know that Geminus wrote a commentary on Posidonius. These facts suffice to cast suspicion on the statement of Proclus regarding the mathematical achievements of Pythagoras, which owe their supposed authority to the presumption that they derive from Eudemus. While there are many historians who hold that view, it has been rejected of late by several leading scholars. That it may be questioned is enough for our present purpose. I may add, however, that in my opinion it is certainly not derived from Eudemus. There is, in fact, no satisfactory evidence that Aristotle, Eudemus, or Theophrastus attributed a single scientific achievement to Pythagoras himself: such things they always referred to "Pythagoreans." If other members of Aristotle's school represented Pythagoras as the originator of the interests that marked the scientific pursuits of his Order, it becomes a pertinent question why they did so. We should be especially grateful if we could be quite sure that it was really Dicaearchus, one of the best pupils of Aristotle, who said²⁸ of Pythagoras, "What discourses he held with his associates, no one can affirm, for they observed exceptional silence. Nevertheless what is best attested by all is, first, that he said that the soul is immortal; next, that it migrates into other species of living beings; and in addition, that according to certain periods the things that once were come about again, and nothing is absolutely new; and that all beings that have souls must be considered akin. For it seems that Pythagoras was the first to introduce these beliefs into Greece."

Proclus, then, after saying that Thales first went to Egypt and thence introduced geometry into Greece, himself discovering many propositions and preparing the way for his successors to discover the principles of many others, approaching some solu-

²⁸ Porphyry, *Vit. Pyth.*, 19. Diels (*Vorsokr.*⁵, I, p. 100, 36 ff.) holds, with most scholars, that this statement is part of the text which Porphyry refers to Dicaearchus (c. 18).

tions in a more general (i. e. abstract), others in a more visual manner, and saying that Mamercus, the brother of the poet Stesichorus was mentioned²⁹ as having interested himself in geometry, he proceeds:³⁰ "Following these Pythagoras converted geometrical philosophy³¹ into the form of a liberal education, contemplating its principles deductively and investigating its theorems in an immaterial and rational way. It was he who discovered the theory of proportions (?) and the construction of the (five) regular solids." As I have already said, I cannot believe that this truly represents Eudemus, however much in detail may have been ultimately derived from him. Judging by what we otherwise know of him we may be sure that he did not so speak of Pythagoras; but he may have characterized the method of the *Pythagoreans* in some such terms, which seem to reflect the ideals of Plato as set forth in the *Republic*. Even so, however, the method of (Pythagoras or) the Pythagoreans, as here described, does not differ essentially from that attributed to Thales. We know, to be sure, that Eudemus did credit Thales with the knowledge of certain fundamental propositions of geometry;³² but it is plain that his knowledge of them was inferred from feats with which tradition credited him. The question naturally arises, since we have here no verbatim quotations from Eudemus, whether he attributed these discoveries to Thales unconditionally or merely said that he must have known the propositions *if the traditions were true*. Either view is, of course, possible. In any case, however, the statement of Proclus and the known inferences of Eudemus make it certain that the mathematical tradition did not regard Pythagoras as the *founder* of the science in Greek lands. One must add that the statement that Pythagoras discovered the construction of the cosmic (Platonic) solids is certainly not true. The labored efforts of certain scholars to find some justification for it are based on the indefensible view that we are here dealing with Eudemus rather than with Proclus. If the latter's immediate source was Geminus we

²⁹ This expression suggests Proclus' dependence on general literature rather than on a serious history of mathematics.

³⁰ *In Eucl.*, p. 65, 11, ed. Friedlein.

³¹ Eudemus would hardly have used this expression.

³² Diels, *Vorsokr.*⁵, I, p. 79, 8 ff.

may really have to thank Posidonius for the view generally accepted by historians of Greek mathematics.

We are fully justified, then, in disregarding the supposed testimony of Eudemus to the mathematical achievements of Pythagoras; but of course that does not eliminate the Pythagoreans. If we take the statements of Proclus as applying to them, we have essentially the same view as we obtain from Aristotle. But Eudemus, fortunately, compensates us for the loss of spurious data regarding the founder by giving precious information about specific achievements of those who called themselves Pythagoreans. It is not necessary for our present purpose to review and evaluate the precious data of Eudemus as reported by Proclus in his *Commentary on the Elements of Euclid*. That may safely be left to more competent mathematicians. It is only necessary to emphasize the need of guarding against the same temptation to which Eudemus may have succumbed—the temptation to infer too much from what we may safely accept as fully attested. If that precaution is fully observed we arrive at a body of propositions and demonstrations at least as early as Eudemus and presumably earlier. One wishes that one might add that all this body may be certainly referred to the time before Hippocrates of Chios,³³ who is said to have written the first *Elements of Geometry*; for then we should have an approximate *terminus ante quem*. Obviously this cannot be done, because there were Pythagoreans who lived contemporary with and after him, and we know almost nothing about the contents of his treatise.

To sum up the situation, we may say that from Aristotle and Eudemus we learn that from the middle of the fifth century onward there were Pythagoreans busily and fruitfully occupied with mathematics, especially with the theory of numbers and geometry. Between the middle of the fifth century and Aristotle there are a few data of considerable importance; but about the part played by Pythagoreans (excepting the specific achievements mentioned by Eudemus, all without dates or names of

³³ There exists no evidence for his date, which is commonly put about 450 B. C. This seems to me too early; on the other hand Erich Frank, *Plato und die sogen. Pythagoreer*, p. 227, probably goes too far in the opposite direction in saying that he lived scarcely before 400.

individual geometers) we have no satisfactory evidence. It is one of the most singular facts in the history of Greek thought that individual Pythagoreans are rarely mentioned except by later writers whom one has every reason to suspect. Aristotle, indeed, mentions among others Hippasus, but only to say ³⁴ that he, like Heraclitus, made fire the material cause. Whether he wrote a book or not we do not know, but we incline to doubt it because it is expressly stated that he did not ³⁵ and that Philolaus was the first Pythagorean to do so. Even if he did, however, we should infer from Aristotle's reference that his book did not deal with mathematics. In later times he became the Judas of the Order, who betrayed the master's secrets and was deservedly destroyed by the gods. He obviously cannot afford firm footing for a reconstruction of the development of Greek mathematics. Aristotle's other references to individual Pythagoreans—to Paron, Xuthus, Eurytus—tell us nothing of importance.³⁶ Philolaus is cited in the *Eudemian Ethics*,³⁷ but not for mathematics. The contention of some scholars that Aristotle in the *Metaphysics* ³⁸ refers to a statement of his is more than dubious. While I believe that Erich Frank has tried to prove too much, I fully agree with Burnet in regarding the so-called fragments of Philolaus as spurious, or at least as pseudepigraphic. What we may safely say about his views depends on Plato, Eudemus,³⁹ and Menon, and that throws no light on his mathematics. Even if one accepts the "fragments," however, there is little gain in this respect, unless they are interpreted and combined with texts

³⁴ *Metaph.* 984 a 7. Theophrastus (Diels, *Vorsokr.*⁵, I, p. 109, 6 ff.) repeats this with amplification probably based only on Aristotle's statement that Hippasus and Heraclitus made fire their ἀρχή.

³⁵ Diog. Laërt., VIII, 84, citing Demetrius Magnes as his authority. Cf. n. 27.

³⁶ Diog. Laërt., VIII, 46 mentions as the last of the Pythagoreans, whom Aristoxenus knew, Xenophilus, Phanto, Echebrates, Diocles, and Polymnastus, pupils of Philolaus and Eurytus. None of these, so far as we know, contributed anything to mathematics. Ecphantus appears as an astronomer who combined opinions of Democritus and Anaxagoras. Perhaps he was only an imaginary person, playing a rôle in a dialogue of Heraclides Ponticus. We know nothing about his mathematics.

³⁷ 1225 a 33.

³⁸ 1080 b 6: cf. Philolaus, *frag.* 8 Diels.

³⁹ That is, provided the *Eudemian Ethics* was written by him (300 B. C.?).

dating from later centuries. What remains for the would-be historian are inferences. Besides Aristotle and Eudemus, Plato and the Platonists contemporary with Aristotle inevitably demand consideration; but here, as has already been stated, the information is in general rather vague and subject to different interpretations. Above all, it affords no definite chronological data and no assured references to individuals. Even about Archytas we know too little to be of much service. In fine, we may be said to have positive knowledge only of a considerable body of mathematics in which Pythagoreans were certainly concerned; and some of these Pythagoreans were earlier than Plato; how much older, we do not know, and one is strongly inclined to infer from the polemical tone of many references, that the questions at issue were, at least for the most part, the subjects of debate in the schools of Plato and of Aristotle and therefore presumably not dating back a century or more.

Though this state of our actual knowledge is rarely, if ever, frankly confessed, it has evidently troubled the more conscientious historians. That is why so much stress is laid on the connection of the Eleatics with the Pythagoreans. Burnet⁴⁰ confesses that the only means of distinguishing between what is earlier and what is later in Pythagoreanism is furnished by the Eleatics. This assumes, what one has tried to prove, that there are in the doctrines and arguments of the Eleatics adequate proofs of the existence of Pythagorean doctrines. If that can be shown, the student does indeed have a sure foundation for his reconstruction of the history of Greek mathematics, though even so it must remain in good part conjectural. Much as this is to be desired, we must not permit our wishes to influence our judgment as to what we may infer from the evidence at our command. On the other hand we may not lightly regard the theses of such eminent scholars as Tannery, Bäumker, and those who have accepted their conclusion. If we cannot agree with them, we may derive a little comfort from the fact that they often confess that their accounts are largely conjectural.

There is much to be said for the view that the Eleatics had relations more or less intimate with Pythagoreans. This need not be disputed, though there remain certain difficulties

⁴⁰ *Greek Philos. Thales to Plato*, pp. 43 f.

that may not be ignored. By way of illustration one may cite Parmenides. One statement⁴¹ has it that he was "converted to peace" not by Xenophanes but by the Pythagorean Ameinias, to whom he erected an heroön after his death. This implies that Parmenides was converted to Pythagoreanism, and one would naturally think of this occurring in his youth. If there is any basis for this statement, the evidence for it, one would suppose, was the monument to Ameinias and the inscription it bore. Alongside this datum, however, we must place another. In the proëm of his work Parmenides himself tells of being conducted by the Sun-maidens from Darkness into Light, even to a goddess who reveals to him the unshakable heart of Truth. If this means anything, it must symbolize another conversion, again presumably in his youth.⁴² This conversion is taken to be a renunciation of Pythagorean dualism. He thus appears to be (rather strangely for a "stabilizer") as volatile as Schelling and an apostate from the faith of the Order. Though this cannot be regarded as in any way conclusive, it inevitably suggests caution regarding a person and a situation about which unfortunately we know far less than we could wish. We need not dwell upon Parmenides, however, because the only aspect of his teaching that even remotely concerns mathematics is that dealing with the One and the Many, which is the theme of Zeno's arguments.

It is really in Zeno that we have to look for reference to Pythagorean mathematics, if it is to be found in the Eleatics. Now it must appear strange, in view of the assurance of many modern scholars, that there is not, so far as I know, a single hint in our sources that the Greeks themselves were aware of the purpose of Zeno to criticize the fundamental doctrines of the Pythagoreans. Of course our historians have a ready answer to this objection to their thesis. Are we not told⁴³ that Zeno wrote *Against the Philosophers* and that he meant to pay off with

⁴¹ Diog. Laërt., IX, 21.

⁴² I should not insist, as Burnet did, on the fact that the goddess addresses him as *κοῦρος*, for that is hardly decisive. But the tone of the poem is so uncompromising that I can think of it only as the work of a young man fond of paradoxes; its crude form also suggests a first attempt. If this view is right it has obvious bearings on the question of Parmenides' relation, for example, to Heraclitus.

⁴³ Suidas, s. v. Ζήνων (after Hesychius), and Plato, *Parm.* 128 c.

interest those who ridiculed or travestied the view of his master, Parmenides, that All is One? As for the title of Zeno's book, may one confidently assume that it was not given by the Alexandrians but by Zeno himself? The latter supposition is extremely improbable if we date the work *ca.* 465 B. C. With that assumption falls also the presumption that it was specifically directed against the Pythagoreans as the only "philosophers" at the time prominent in Italy. But why should one think especially of "philosophers?" The paradoxical doctrine of Parmenides that All is One and that motion is impossible must have made him the butt of many a ribald remark. Philoponus says,⁴⁴ "Those who introduce plurality are confident of it because of its self-evidence, for there is a horse and a man, etc." Surely Parmenides, as a man, was not a horse? One imagines that Antisthenes the Cynic was not the first to answer the arguments against motion by getting up and walking away.⁴⁵ That is still the way the man of the world answers philosophers and professors. Indeed, if we are to depend on the titles of books attributed to Zeno, why should we not rather think of Empedocles, on whose work he is reported to have written a commentary? Assuming that the Pythagoreans were the profound philosophers we are given to understand, we should hardly think of them as indulging in the kind of ridicule that Plato's statement implies.

It is clear that nothing reported about the purpose of Zeno's book affords the least presumption in favor of the view that it was directed against the Pythagoreans. If there is any evidence pointing to such a conclusion it must therefore be discovered in the arguments themselves. It would be tedious and useless to review the arguments in detail. They are familiar to every student of Greek thought and their subtlety still exercises the students of logic and mathematics. We need only to direct attention to their general assumptions and the form in which the arguments have been handed down to us. Regarding the latter it is important to observe that we have at most three statements⁴⁶ that can be plausibly regarded as preserving the

⁴⁴ *Phys.* 42, 18, ed. Vitelli.

⁴⁵ Diels, *Vorsokr.*⁵, I, p. 251, 20 ff.

⁴⁶ Diels, *ibid.*, p. 255, 14 prints *ἐὶ μὴ ἔχου μέγεθος τὸ ὄν, οὐδ' ἂν εἴη* as *ipsissima verba* of Zeno. This is in itself improbable and is further

actual words of Zeno, whereas the variant versions of his arguments themselves prove that we have for the most part to deal with paraphrases dating from later times, from which we can at best infer only the drift of the argument. If this is obvious at first glance, it is emphasized also by Aristotle's reference⁴⁷ to those who urge the antinomies of Zeno and by the certainty that at times he is thinking quite as much of Plato as of the Pythagoreans.⁴⁸

It is sometimes urged that Zeno was attacking an hypothesis. But there is really no reason whatever to single out the Pythagoreans as the proponents of the fundamental hypothesis of all his arguments, to wit, that things are a plurality. Whatever specious considerations may be offered in favor of the supposition that Zeno had Pythagoreans in mind are all due to incidental statements in later authors, who are manifestly *interpreting* and not reporting what he said. So far as we know Zeno did not mention the word "number" at all, though he does *imply* a reference to numbers.⁴⁹ In doing so, moreover, he implies no special conception of number but only such as anyone must have who enumerates objects of any sort. Most of the difficulties he raises are connected with the notion of infinity. What we actually know about the Pythagorean notion of infinity, in relation to number, is *nil*. Taking infinity in the strict sense,⁵⁰ Zeno evidently regards a realized or realizable infinite, that is, a numerable infinite, as a *contradictio in adjecto*. Either things are just as many as they are, in which case they are

indicated as not true by comparing with *προδείξας* the passages p. 257, lines 3 and 6 introduced by *προδείξας* and *δεικνύς*. Except when it is expressly stated that a passage is given *verbatim* it is rarely possible to distinguish between a quotation and a paraphrase, which may be quite free and is in fact very often entirely misleading.

⁴⁷ *Phys.* 263 a 5 ff. It is obvious that no inferences can safely be drawn regarding the original intention of an argument from later applications of it.

⁴⁸ E. g. *Metaph.* 1001 a 29-b 13.

⁴⁹ E. g. *frag.* 3, Diels.

⁵⁰ Zeno is the true Parmenidean in doing so; for much of the significance of Parmenides arises just from the insistence on a single and strict sense in the use of the terms *τὸ εἶναι* and *τὸ ὄν*. It was this tendency, especially emphasized by the Eleatics, that created and promoted dialectic by requiring the distinction and definition of terms.

finite in number, or if they are not, they are not numerable at all, and plurality has no meaning. Parmenides had said that what is is One and at least distinctly implied that it is extended. That statement would naturally provoke criticism; for what has extension must have limits that do not coincide and consequently presuppose an interval between them. This criticism is so obvious that it requires no great mathematician to make it. Zeno recognizes the difficulty⁵¹ and, as Plato says, pays the critic off with interest. We may imagine him retorting, Yes, there is a difficulty here, but is your assumption of plurality any less obnoxious to objection? You insist that the extended is divisible. Well and good: supposing it to be divisible, it must be divisible *ad infinitum*, for so long as it is extended (and parts of the extended must themselves be extended) there is no limit to division. The only alternative is that the parts shall not have extension, in which case they will be nothing, and no multiplication of them can produce an extended body. The horns of the dilemma are equally fatal, and once one takes the conception of infinity seriously the dilemma must be obvious to any man of intelligence. The difficulty thus posed is logical rather than mathematical, and I, for one, cannot see why we need to look beyond Zeno for the author of the alternatives. If one says he must have been attacking someone who held that reality is composed of indivisible entities, why should one think of contemporary Pythagoreans, rather than of Democritus, Plato, and Xenocrates? If the latter could accept, after the dilemma had been stated, the latter horn, why may not Pythagoreans of a

⁵¹ This is certainly implied in the statement Plato represents Zeno as making (*Parm.* 128 d) that the hypothesis that there is a plurality leads to *still more ludicrous consequences* than the Parmenidean hypothesis that the One only exists. Similarly Plato frankly admitted difficulties in his theory of ideal forms. I think it is unwarranted to say, as is often said, that Zeno's arguments against an indivisible unit ($\epsilon\nu$) do not touch the One of Parmenides, but apply only to an atomic unit, supposed to be Pythagorean; for the One of Parmenides, if extended, as is clearly implied in describing it as continuous, is obnoxious to the same objections as the atom. I cannot otherwise understand the statement attributed to Zeno by Eudemus (Diels, *Vorsokr.*⁵, I, p. 251, 25) $\epsilon\dot{\iota}$ τις αὐτῷ τὸ ἐν ἀποδοίη τί ποτέ ἐστιν, ἔχειν τὰ ὄντα λέγειν, for here τὸ ἐν must refer to the Parmenidean One. The only way of escape would lie in regarding the One as incorporeal; but neither Parmenides nor Zeno took that way.

later age have done the same? The burden of proof rests with those who contend that Pythagoreans, Zeno's predecessors or contemporaries, held that view. *His* argument cannot take the place of such proof.

As has already been said, the supposed reference to the Pythagoreans finds its only documentary support from later writers. There we find such terms as *monad*, *henad*, *point*, etc., but not in Zeno's own statements. He doubtless spoke, as did Parmenides, of the *one* (ἐν); *monad*⁵² and *henad*, which are not known to occur before Plato's time, are obviously abstract terms, suited to a conception of number directly opposed to the view attributed to the Pythagoreans by Aristotle, who insists that their numbers had magnitude. He does, to be sure, say that they were mathematical, but apparently only because they used numbers in ordinary calculations, as one does in every mathematical operation. Moreover he expressly declares that their numbers were not *monadic*. That, it would seem, should dispose of the supposition that they used the term *monad*.⁵³ As for the contention that Zeno was attacking a view that identified the monad with the point, it is clear that there is really no evidence to support it. Simplicius does indeed twice⁵⁴ quote Eudemus on

⁵² Theo Smyrnaeus, p. 20, 19 says 'Ἀρχύτας δὲ καὶ Φιλόλαος ἀδιαφόρως τὸ ἐν καὶ μονάδα καλοῦσι, καὶ τὴν μονάδα ἐν. One can well believe this statement, for that brings us down to Plato's time; but why should it be made, if Zeno had already used the terms interchangeably?

⁵³ *Metaph.* 1080 b 18 τὸν γὰρ ὅλον οὐρανὸν κατασκευάζουσιν ἐξ ἀριθμῶν, πλὴν οὐ μοναδικῶν, ἀλλὰ τὰς μονάδας ὑπολαμβάνουσιν ἔχειν μέγεθος. From any point of view this statement is curious. I take it that Aristotle in the last clause was falling into current terminology, which consequently signifies nothing. (Alexander, *In Metaph.*, p. 746, 1, ed. Hayd. says μοναδικὸν τὸ ἀμερὲς καὶ ἀσώματον ἐνταῦθα δηλοῖ.) I think, however, that he could not have said that the Pythagoreans' numbers were *not monadic* if he had evidence of their using *μονάς* for ἐν. Cf. *De Caelo* 300 a 14 ff. In *Phys.* 227 a 27 ff. he speaks of those who describe point and monad as separate (κεχωρισμένas), and says that on this view monad and point cannot be identical. If these were Pythagoreans, we have no means of dating them; more probably they were Platonists. Cf. n. 56.

⁵⁴ *Phys.*, p. 97, 13 ff.; p. 138, 32. Aristotle, *Metaph.* 1001 b 7 ff. had given a similar interpretation. If Eudemus had found in Zeno anything to justify the identification he would hardly have contented himself with conjecture. Tannery, *Pour l'histoire de la science hellène*, p. 252, says that Eudemus did not know Zeno's arguments except through tradition. This supposition is difficult to credit, since Simplicius still had the

this matter, but when it is stated that Zeno identified the point with 0 this is expressly given as a conjecture (ὡς εἰκοι); in other words, it is an *interpretation* Eudemus offers of Zeno's argument. That an interpretation in terms of mathematics was called for would seem to be strong evidence that Zeno's statement was couched in *logical* terms. After the manner of the commentators Simplicius⁵⁵ gives as a fact what Eudemus conscientiously stated as a conjecture.

Much is made of the supposed identification by the Pythagoreans of the unit (monad), point, and atom. That Pythagoreans at some time may have made this identification need not be denied, though the evidence has not been produced. Those who see criticism of Pythagoreans here regard them as maintaining the contradictory positions (a) that space (body) is extended and therefore divisible, and (b) that division may be halted at a given point, leaving discrete ultimate units, which however are equivalent to geometrical points. It is important to observe, however, that Zeno does not say, or imply, that anyone took both these positions, but regards them as *alternative* possibilities under the general hypothesis of a plurality conceived as parts of an extended whole. The conception of non-extended units (points) is itself an alternative under the head of ultimate units. The argument purports to show that each of the conceived possibilities leads to absurd consequences. How difficult it is to determine the special target of these arguments, suppos-

original text at hand. As the historian of mathematics Eudemus would, it seems, certainly have consulted and carefully read the book, had he believed it dealt specifically with the fundamental concepts of mathematics. Tannery there calls attention to another significant fact—that Eudemus, so far as we know, did not mention Zeno in his history of mathematics, but only in his *Physics*. I can account for this only on the supposition that he, like Aristotle, regarded the Eleatic arguments as essentially logical and as concerned with the fundamental concepts of the physical sciences generally rather than with the particular question of number or geometry.

⁵⁵ *Phys.*, p. 99, 7 ff. Burnet, *E. G. P.*³, p. 315, n. 3 quotes part of this statement as if this were actually a quotation from Eudemus. That is hardly fair dealing. Similarly, *ibid.*, p. 314, he says "Plato (*Parm.* 128 c f.) tells us that the premises of Zeno's arguments were the beliefs of the adversaries of Parmenides." The only premise stated is that *things are many*. That premise was certainly not peculiar to Pythagoreans!

ing that there was one, is shown by the fact that they apply perfectly to the Atomists, whom Aristotle (*De Gen. et Corr.* 324 b 25 ff.) represents as trying to meet the Eleatic logic. Similarly *Phys.* 187 a ff. might well be taken as referring to the Atomists; the ancient commentators, however, thought of Plato and Xenocrates, and Ross, *Metaphysics*, I, p. XC, thinks there is an evident reference to Plato's *Sophist*. The equation of the monad and the point having position is attested only by a quite late writer.⁵⁶ Now it is obvious that Zeno did consider, only to reject, the indivisible unit, most pointedly, perhaps, in the "Arrow," where time and space are each conceived as composed of indivisible units. Why one should think this was Pythagorean doctrine I am unable to discover. To make the supposition plausible one must produce evidence that Pythagoreans, and Pythagoreans of Zeno's time, held such a view of time, space, and motion. In the "Stadium" also we have the same elements, only even more sharply defined; for there space, time, and motion are conceived as composed of indivisible units, each precisely corresponding to each. The refinement of the argument is truly wonderful; but what grounds have we for thinking that Pythagoreans expressly held such a view? If Zeno constructed his subtle argument on the sole basis of an extended (spatial) unit, such as Aristotle supposes their numbers to have been, he was presumably capable of conceiving without help from anyone else a *continuum of any sort* as composed of discrete units, which would be a natural way of regarding plurality. Plato makes Zeno say that his arguments were intended to show that the hypothesis of plurality led to even more absurd conclusions than monism *if one adequately followed it out*. I take it, it was Zeno himself ^{56a} who analyzed the assumption of plurality into its ele-

⁵⁶ Proclus, *In Eucl.*, p. 95, 20. If Aristotle, *Phys.* 227 a 27 ff. and *Metaph.* 1002 a 36 ff. represent Pythagorean doctrine, rather than an interpretation of it by Platonists (cf. Plato, *Parm.* 148 d ff.), there is no way of dating the notion that the point and the monad may be identified. Cf. n. 54. In any case we should have to assume, from the usage of Parmenides and Zeno, that the Pythagoreans of the first half of the fifth century spoke of τὸ εἶν and not of the *monad*.

^{56a} When Plato, *Phaedrus* 261 d, called Zeno the Eleatic Palamedes he obviously had in mind the *inventiveness* of Palamedes celebrated in several dramas. Clearly Diogenes Laërtius, IX, 25, or his source, so understood the matter, for it is coupled with the statement of Aristotle

ments, purely as a logical problem,⁵⁷ presenting the alternatives under which it could be made. I would not deny that one or the other of the possibilities he considers had already been stated by others, for it is of course possible: if one holds it to be a fact, one must produce the evidence for thinking so.

Lest the position of this survey be mistaken, it should be clearly stated that we have no satisfactory evidence for the view that Zeno was attacking a particular theory, that is to say, the Pythagorean. There is no pretense, on the other hand, that there is clear evidence that he was not doing so. It suffices for our purpose to point out that the arguments he advanced were, as Plato implies, the result of a thorough canvass of the implications of plurality considered as referred to a world having the property of extension that Parmenides admitted. There is no express reference to number, or if there is, certainly none to a particular conception of number; for, though the arguments are applicable to number, the analysis seems to have been conducted as a dialectical exercise, noting and drawing the necessary conclusions from the alternative forms the primary assumption of plurality may take. If one contends that there were stated hypotheses of schools opposed to Parmenides, it is fair to ask whether one is to assume that every hypothesis of Plato's

that Zeno was the inventor of dialectic, as Empedocles was of rhetoric. The acknowledged originality of Zeno and the fact that no ancient authority suggests that he was criticizing views of the Pythagoreans create a strong presumption that he alone is responsible for both the form and the presuppositions of his arguments.

⁵⁷ It seems clear that Aristotle so regarded the Eleatic method: *De Gen. et Corr.* 325 a 13 ὑπερβάντες τὴν αἴσθησιν καὶ παριδόντες αὐτὴν ὡς τῷ λόγῳ δεῖον ἀκολουθεῖν, cf. *De Caelo*, 298 b 20-23. On the other hand, in his *Δόξα* Parmenides, according to Aristotle, *Metaph.* 986 b 31 ff., set up two causes and principles, ἀναγκαζόμενος ἀκολουθεῖν τοῖς φαινομένοις, καὶ τὸ ἐν μὲν κατὰ τὸν λόγον, πλείω δὲ κατὰ τὴν αἴσθησιν ὑπολαμβάνων εἶναι. The dialectic of Plato's *Parmenides* clearly presupposes the same purely logical approach. Where numbers are mentioned, e.g. 143 a ff., 149 b, this is done incidentally, and in no way suggests that the subject was of special importance. If it be true, as some contend, that the *Parmenides* is partly a criticism of the atomism of Democritus, it is such only by implication, the logical problem of the 'one' being the essential point. If, as it would appear, Theophrastus did not discuss Zeno in his *Φυσικῶν δόξαι*, he also presumably took the position that the arguments were purely logical.

Parmenides is likewise to be so considered. Is it not possible, indeed highly probable, that in that dialogue Plato was imitating the method of Zeno? If so, is it not fairly arguable that the latter also was himself setting up the hypotheses in order to point out their necessary implications?

It is clear that Zeno or others who repeated and applied his arguments might have used them against the theories of Anaxagoras and the Atomists; for they fit their theories as perfectly as the supposed Pythagorean doctrine of numbers. These philosophies did in fact accept the horns of Zeno's dilemma, Anaxagoras adopting the view that matter may be infinitely divisible without therefore being reduced to 0; Leucippus and Democritus, that matter is ultimately constituted of discrete indestructible particles;⁵⁸ and we must assume that both schools applied their principles to mathematics. We need not now inquire how they met the inevitable problems of continuity and infinity. Both these problems continued to exercise the schools of the fourth century; and it is more than likely that Pythagoreans engaged in the debates. Unfortunately we have no satisfactory evidence for them, more especially about the middle of the fifth century.

One readily understands the motives of those who press the claims of Pythagoreanism and seek by all means to reconstruct its doctrines during the obscure period between the times of

⁵⁸ Aristotle pointed out (*De Caelo*, 303 a 8) that the atoms were quasi-numbers, and he represented the theory of the Atomists as an answer to the Eleatic logic (*De Gen. et Corr.* 324 b 25 ff.). It is notable that the dependence of Atomists on the Pythagoreans, which must be evident if the reconstruction of Burnet is sound, was apparently never thought of (Aristotle, *De An.* 404 a 1 ff., 16 ff. really has no significance, even if the text be sound, which, like Diels, I doubt), just as no one hinted at the supposed Pythagorean doctrine as the target of Zeno's devastating arguments. In fact Burnet, *E. G. P.*³, p. vi, insists that "the vital point" of his argument is his contention that Atomism was derived from Eleaticism. That one ignored even the Atomists, again shows how preoccupied one was with the debates in Platonic circles. On the other hand, if one takes Aristotle's view that the Pythagorean numbers had magnitude, one finds it difficult to understand how it could be asserted (cf. Aëtius, I, 3, 9) of Ecphantus (who, if an historical person, must have lived in the fourth century), *τὰς Πυθαγορικὰς μονάδας οὗτος πρῶτος ἀπεφάνητο σωματικὰς*, thus making the (numerical) unit virtually an atom.

Parmenides and Plato. We know that there were members of the school who busied themselves with mathematics and contributed much to the advancement of the science, but except for specific discoveries and their necessary implications we actually know little more; above all, we have no chronological data except the fact that a good deal had been achieved before the time of Aristotle and Eudemus. Even respecting the necessary implications of the specific achievements with which Eudemus credits the Pythagoreans we can confidently affirm no more than that they must have been known to them; for it by no means follows that they *discovered* them.

We are thus brought to a point that has been strangely ignored in the reconstruction of Greek mathematics. We have seen that we have no dependable evidence of mathematical achievements of Pythagoras himself, and we know that in later times one inferred his teachings from opinions held by those who were known as Pythagoreans. The best informed Greeks did not regard him or his followers as the creators of Greek mathematics, but thought of them as being active in promoting the science. Eudemus credited Thales with a knowledge of some fundamental geometrical problems: since he did so, as we gather from one instance, by inference from practical achievements traditionally attributed to the sage of Miletus, we may refuse to accept his conclusion; but it is not without significance that the first general historian of mathematics found no difficulty in assuming such knowledge on the part of an Ionian earlier than Pythagoras. We know, moreover, that Anaximander also framed a picture of the cosmos that was essentially geometrical and in principle not unlike that involved in the later Pythagorean theory of the "harmony of the spheres." Indeed, the engineering feat of Eupalinus in constructing the tunnel of Samos implies certain definite geometrical propositions. We thus know that mathematics was cultivated in Ionia before the time of Pythagoras, who left his native Samos about the time the tunnel was built. One readily surmises that Pythagoras had learned some of its rudiments before he went to Italy, whether he and his earliest associates did or did not devote themselves to the study.

There is, in fact, much to be said for the view that mathematics was intensively cultivated by the Ionians from the sixth

century onward. Aside from the geometrical pattern of the cosmos, Anaximander and his successor Hecataeus evidently applied similar principles in the construction of their maps of the earth, and later Ionians applied the same methods in laying out cities. Plato evidently had these schemes in mind, perhaps consciously combining them with cosmological patterns, in describing the capital city of the Atlantians. This aspect of Ionian research should not in the least surprise us when we reflect that almost all the pre-Socratic thinkers, who laid the foundations of Greek science in all fields, were Ionians. But we are not restricted to general considerations and probabilities. Whereas we cannot name a single Pythagorean before Archytas who made a notable contribution to mathematics, we have considerable evidence regarding others whom it will repay one to consider briefly, without attempting to appraise their several merits.

We have referred to Thales, Anaximander, Hecataeus, and Hippodamus of Miletus. Agatharchus of Samos is mentioned⁵⁹ as a scene-painter for Aeschylus in a way to suggest that he was interested in the problem of perspective, which was taken up and advanced by Anaxagoras of Clazomenae and Democritus of Abdera. We have every reason to think that the latter two contributed principles of fundamental importance to the solution of geometrical problems. Oenopides, the astronomer, and Hippocrates, the author of the earliest known hand-book of geometry, were natives of Chios, and Leodamas of Thasos is mentioned as a contemporary of Plato and Archytas among those who contributed to the improvement of geometry.⁶⁰ One notes with interest that all these were Ionians. One cannot pass over Hippias of Elis, who not only concerned himself with astronomy, but attempted the solution of difficult geometrical problems and touched on the history of mathematics. Though he was presumably not an Ionian (we know nothing of his antecedents), he shared all the interests of the Ionians and in character resembled them rather than the Pythagoreans. Meton was an Athenian, as was Theaetetus. The latter, as a pupil of Theodorus of Cyrene,

⁵⁹ Vitruvius, *Praef.* 7.

⁶⁰ Proclus, *In Eucl.*, prol. II, p. 66, 14, ἐν δὲ τούτῳ τῷ χρόνῳ (i. e. Plato's) καὶ Λεωδάμας ὁ Θάσιος ἦν καὶ Ἀρχύτας ὁ Ταραντίνος καὶ Θεαίτητος ὁ Ἀθηναῖος, παρ' ὧν ἐπηνεχέθη τὰ θεωρήματα καὶ προήλθεν εἰς ἐπιστημονικωτέραν σύστασιν.

has of course been thought to belong to the Pythagorean line, though we have no good reason to think of Theodorus as connected with the school. Iamblichus, in his list of Pythagoreans,⁶¹ mentions a Theodorus of Tarentum, but he may quite well have been a different person. In his commentary on Euclid's *Elements* Proclus⁶² gives a list of precursors of Euclid in the composition of geometrical hand-books, each surpassing his predecessor in the number of propositions and the excellence of the demonstrations. Going backward from Euclid he names Hermotimus of Colophon, Theudius of Magnesia, Leon the pupil of Neoclides, and Hippocrates of Chios. Again, where we know anything about the men he names, we are faced with a group of Ionians.

This is certainly a remarkable showing, which it is difficult to understand except on the supposition of a continuous tradition of strong interest in geometry among the Ionians from early times. As against this indisputable evidence it appears reckless to suggest that we owe the entire development of mathematics to the Pythagoreans and to assume that all the necessary implications of the specific achievements credited to Pythagoreans by Eudemus constitute "Pythagorean geometry." Even Iamblichus, who was inclined to claim nearly everything for that school, lends no support to such pretensions, for he says⁶³ that when the mathematical secrets of the Order had been divulged by Hippasus, two men, Theodorus of Cyrene and Hippocrates of Chios did most to advance the science. If we disregard the discredited story of Hippasus and the secret teachings of Pythago-

⁶¹ *Vit. Pyth.*, 265.

⁶² P. 67, ed. Friedlein.

⁶³ Diels, *Vorsokr.*⁵, I, p. 108, 10 ff. Aristotle, *Meteor.* 342 b 29 ff., compares and contrasts the views of certain "Italians" (Pythagoreans) and Hippocrates of Chios regarding the comet. The passage decides nothing about the question of their relations. Erich Frank, *Plato und die sogen. Pythagoreer*, p. 233, holds that Aristotle meant to set Hippocrates apart from the Pythagoreans; Loria, *Scienze Esatte*, p. 74, thinks he classed them together. Such instances of partial agreement, with differences in detail, seem to me natural where there is a common interest in a problem. In order to decide whether one thinker depended on the other we should have to know more than we do, especially regarding their chronology. By the end of the fifth century, it seems, many minds were contributing to a more or less common stock of knowledge and opinion.

ras, we have here a confession that neither of these celebrated men belonged to the Order.

If one is to believe that the Ionians above mentioned learned their mathematics from the Pythagoreans one must make some extremely improbable assumptions; for the connection of the individual philosophers and scientists with Pythagoreanism, though often asserted, cannot generally be accepted as based on anything better than the same wishful thinking that inspires some historians of the present day. Iamblichus, to be sure, furnished a long list of "Pythagoreans" assigned to various cities, including Ionian Paros, Cyzicus, and Samos, but Melissus is the only person otherwise known, and he could be connected with Pythagoreanism only through the apostate Parmenides. We do not even know when the Order, originally at home in Italy, was scattered. Zeller thought it could not have been before the middle of the fifth century; and what dependable sources tell us of such representatives as Lysis, Philolaus, and the Pythagoreans who associated with Socrates rather suggests that their interests lay in other directions.

The conclusion to which we are driven by our study is that it is impossible to reconstruct the history of Greek mathematics, as one may to a certain extent tell the story of the development of Greek scientific thought in general, by focusing attention upon individual men or groups. Regarding our knowledge of details and also with respect to the necessary inferences from known facts nothing is changed; but the rôle of the Pythagoreans must appear to have been much exaggerated. If we are to exercise our imagination in order to supplement our knowledge it would seem that we must reckon with the probability of a continuous mathematical tradition in Ionian lands from an early date. Supposing that to be true, the question arises how the achievements of individuals and groups were communicated, so that it became possible from time to time to sum up and integrate the whole. To that question, which arises in other fields of Greek thought also, there is no satisfactory answer.

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THE FUNDAMENTAL OPPOSITION OF PLATO AND ARISTOTLE.

The subject proposed in this paper is itself disputable, for the Platonic and Aristotelian studies of the last two decades have made it questionable whether there is, in fact, such an irreconcilable contrast between Plato and Aristotle as at first appears to everybody who reads Aristotle's violent criticism of Plato's doctrine of ideas. Must the Aristotelian philosophy not rather be understood as a necessary and logical development of Plato's basic conceptions, especially those of his later period, and is not Aristotle's subtler and more distinct formulation of the ontological problems even more appropriate to the essential intentions of Plato?

Even in antiquity both opinions had found representatives. While most of the Neo-Platonists tried to harmonize the two philosophers with each other and even saw their own particular merit in the reconciliation of the two schools,¹ others, like Syrianus, did not deny the difference between the two and passionately tried to defend Plato against the attacks of Aristotle.²

The fundamental principle of the Aristotelian criticism of Plato being generally known needs to be outlined here but briefly. Aristotle rejects the transcendence, the *chorismos*, of the ideas, i. e. Plato's conviction that the true existence, the idea, is absolutely separated from the objects of this world; in their finite, particular, and perishable existence these objects reflect only in an image, as it were, the eternal and universal subsistence of an unique idea; they "imitate it" and "partake of it" (Aristotle, *Metaphysics*, 987 b 10), without ever being able to reproduce it themselves. For Plato, therefore, the idea has a form of existence entirely different from that of the particulars, of which nevertheless the idea is predicated. Between idea and particular there is the same relation—to use Aristotle's own example concerning this Platonic conception—as there is between the real Callias and his wooden portrait. The two are entirely

¹ Cf. Ammonius Saccas, Plotinus, Origen in Photius, *Bibl.*, p. 461 a 24; Iamblichus *apud* Elias, in *Categ.*, p. 123, 2 (Busse).

² Marinus, *Vita Procli*, 13.

different from each other, the one Callias is real, a living being (*ζῶον*), the other is a dead piece of wood which reproduces only the shape (*εἶδος*) of the living Callias, a mere image, though also called *ζῶον* in Greek; but it is the name *ζῶον* alone which the two have in common. Thus for Plato the word "existence" (*οὐσία*) which refers to the idea as well as to the particular things is only "homonymous" (*Parmenides* 133 D; *Phaedrus* 266 A, etc.), since in reality it has different connotations.³

It is this Platonic principle of the *chorismos* which Aristotle attacks most ardently. The existence of the idea, as Aristotle formulates it in the general notion (*καθόλου*), the definition (*λόγος*), is separated only in thought from the particulars whose real character it expresses, whereas in reality it is immanent in the particulars. For Aristotle, then, the expression "existence" means the same here and there, it is "synonymous," not merely "homonymous," as it was for Plato.

These somewhat abstract formulations represent at bottom a fundamental philosophical opposition which has at all times incited philosophical passion for and against each one of these philosophers. The question is whether the true being, God, is beyond this world and therefore also beyond the being of the philosopher himself or whether it is within himself, adequately intelligible to his own thought and intuition. It is the same opposition which separates Kant from Hegel or, to-day, the philosophy of existence from every dogmatic conception of metaphysics and ontology, an opposition, however, which is irreconcilable only from the point of view of one side, in our case of Plato, because the other side denies that such a contradiction exists at all. To this group, therefore, the antithesis Plato-Aristotle must seem "superficial" (Hegel), and the historical progress from Plato to Aristotle must appear as a necessary "procession of thought." Under the influence of this philosophical conception many philologists to-day are inclined again to deny that the opposition between the two philosophers is final. They see in the Platonic dialogues of the later period a transition to the Aristotelian conception of the idea, just as, on the other hand, they see in the fragments of the early Aristotelian works a point of view closely related to that of Plato, with the result

³ Arist., *Categ.* 1 a 1; *Metaphysics* 990 b 22-991 a 8; cf. Syrianus, *Metaphysics*, p. 162, 15 Kroll.

that there appears a continuous development from Plato to Aristotle.

This problem of interpretation could definitely be solved only if, apart from the dialogues, we had an authentic writing of Plato in his last period from which it could be concluded with certainty whether his principle notion of the idea and the way in which it is known really changed in the direction of Aristotle's ontology. Now it seems as though we actually had such a document of Plato's, namely the *Seventh Epistle*. Since it can hardly be assumed that anybody except Plato himself should have attained such philosophical profundity as is to be found there, this letter is now generally supposed to be authentic. It is particularly the advocates of a continuous development from Plato to Aristotle who hold this point of view (Stenzel, Jaeger, *et al.*); but even if one believes that the authenticity of the *Seventh Epistle* has not yet been sufficiently proved, the document could be ascribed only to an author who was intimately acquainted with the manner of Plato's thinking during his last years. In either case the *Seventh Epistle* is an invaluable source of Plato's late philosophy. It seems appropriate, therefore, to start an investigation of the relationship of Platonic and Aristotelian thought with an analysis of the *Seventh Epistle* and to compare its philosophical content with that of the Aristotelian writings.

1. Plato's *Seventh Epistle* and Aristotle's *Metaphysics*

Plato presumably wrote this letter in the year 352/1, only two or three years before his death. It is his philosophical will, as it were, addressed to the followers and heirs of his friend Dion in Sicily. The purpose of the letter is to contrast Plato's true philosophical conviction, by which his thoughts and actions had been guided from early youth, with all the calumnies and misleading misinterpretations brought forward against him. It is in this connection that he speaks also of the complete misunderstanding (*παρακούσματα* 340 B) of his philosophical doctrines. Such misrepresentations had for a long time been spread at the court of the tyrant Dionysius in Syracuse by certain philosophers who pretended to have heard of the Platonic ideas, either directly or indirectly through Plato's pupils. At present these slanders

had been revived by pamphlets which claimed to contain the ultimate and highest principles (τι τῶν περὶ φύσεως ἄκρων καὶ πρώτων 344 D) of Plato's philosophy (341 B).

The mention of these so-called systematic outlines of his philosophy causes a passionate outburst against their authors: "But so much I have to say about all those who have written about these things and will write about them and who claim to know what I am really striving for (σπουδάζω), whether they heard it from me myself or through others, or whether they pretend to have found it by themselves, all these, I am convinced, cannot understand a word of the subject itself (πρᾶγμα). At least there exists no treatise of mine thereon, and there shall never be any, for there is no way of expressing these things like other *mathemata*, but only by repeated communication with the subject itself and by living in close contact with it it suddenly flares up in the soul like a light kindled from a leaping fire and henceforth itself nourishes itself" (*Ep.* VII, 341 B-C).⁴

In order to show how all such written presentations of his philosophy miss his real point in the very fact of formulation, Plato feels compelled in the following philosophical digression to explain his true opinion about philosophy in general. If from any source, we should be able therefore to learn from this one which philosophical point of view was prevalent during the last years of his life. The leading thought of this whole argument is the following: the true being, that which we are accustomed to call "the idea," cannot be comprehended adequately through any expressible term (λόγος) at all within the

⁴ There is one conclusion that we can draw with certainty from this passage: at that time there must already have existed writings referring to the doctrines brought forward by Plato in his lectures. And we know by chance that a pupil of Plato's named Hermodorus carried on a flourishing trade in such Platonic *logoi* in Sicily itself, the country of the addressee of the *Seventh Epistle*. But we know also that Aristotle himself wrote such a treatise which claimed to reproduce the "enigmatic" opinions taught by Plato in his lecture *Περὶ τοῦ ἀγαθοῦ* about the "one" and the "indefinite dyad" as the ultimate principles of the idea (Fr. 27 ff. Rose²). Whether it is these treatises that Plato has in mind in the *Seventh Epistle* can be decided the less since here he makes a very general attack on all such written presentations of his philosophy (similar to *Phaedrus* 276 A ff.), and it is just because of this generalization that his attack is so effective.

medium of human understanding, not even in its highest perfection, the thinking of the *voûs*; understanding therefore in all its phases, from the lowest to the highest, remains always something other (*ἕτερον*) than the being itself which it claims to understand; for, in the perception of the senses as well as in the intellectual concept, the true being (*τὸ ὄν*) does not represent itself to the soul as itself, but as something that is only qualified like itself, as a *ποῖόν τι*. As long as we search either through daily experience or through science for this true being, we are satisfied with the appearance in which it is accessible to us and rightly hold our understanding for certain. But as soon as we ask for that true being itself which is the basis of all appearance, every answer, whether given by conception or perception, proves to be dialectical and "easy to refute," and in this case the opponent in the discussion always prevails. The empirical appearance of a geometrical circle—this mathematical example is used to explain this important consideration—merely looks like a circle, but is none. This empirical circle is not absolutely round, as the mathematical definition demands, but is at the same time the contrary also, namely straight. Thus every empirical reality transgresses its own being, i. e. that which it really tends to represent, and turns into its opposite.⁵ Nor is the concept of circle in its specific existence, as this audible expression, namely "logos," that which it aims at being, true circularity. And finally, even the pure thought, as it rises and vanishes within the soul, unspoken and unheard, is not the circle itself but only a temporary determination, made by the soul (cf. also *Symposium* 208 A).

What the soul sought to know, however, is not that which is only like a circle, but the thing itself, the idea. Instead of that idea, intellection has presented to the soul what it was not seeking at all, only the thought of the object. Thus every thought is necessarily dialectical. The thinking is unable to preserve the transcendent existence as thought; it must annihilate the thought in order to reach the thing itself. For Plato, therefore, the true philosophical method is this form of dialectic, higher than

⁵ This is the phase of dialectic which Zeno discovered and which Plato therefore makes him explain in his dialogue, the *Parmenides*; cf. Zeller, *Die Philosophie der Griechen*, IIa⁴, pp. 629 ff.

the primitive Eleatic dialectic which Socrates postulates for the intuition of the idea and of its existence.⁶ It is this alternation of question and answer which questions every answer to the question about the "what is it" in that in the answer given it distinguishes (*διαπερν*) again knowledge from ignorance, being from non-being, and in general the absolute, divine, from the finite, human. Every perception, every concept, every thought of a thing is thus again refuted and in "rubbing" (*Ep.* VII, 344 B) these phases of knowing against one another and against the true being of the idea itself, their finitude and untruth become manifest.

And yet the result of dialectic is for Plato not, as for the Sophists, merely negative. The truth which is attained through it is no longer a merely theoretical one, but is that of the *agathon*, of that supreme idea in the proper sense, which is the ultimate origin of every truth, of the intellection as well as of the existence of the various ideas (cf. *Republic* 508 E-509 B; Aristotle, *De Anima* 404 b 19). This truth is, therefore, the truth which one himself *becomes*, the truth of the existence of the philosopher himself. Man's essential and real existence, according to the Platonic Socrates, consists in searching, asking, longing for the true existence which, being hidden from him by the delusion of supposed knowledge, is not revealed to him unless he is struggling for self-knowledge, to be accomplished by that dialectical knowledge of one's own ignorance.⁷ The famous words of the *Symposium* are meant to express the true Platonic sense of the word "philosophia": "None of the gods philosophizes or wants to become wise, for he is wise, nor does anybody else philosophize who is wise. On the other hand, nobody philosophizes who is entirely ignorant For he who does not feel needy does not want that of which he is not in need. But those who do philosophize are just in between the two, between the knowing and the ignorant" (*Symposium* 203 E ff.). Thus according to the *Seventh Epistle* also, man does not attain his true and essential existence except through philosophical self-knowledge as accomplished by dialectic. Not until the philosopher, who, it

⁶ Cf. *Sophist* 251 A ff.; *Philebus* 15 A; *Parmenides* 129 B, etc.

⁷ Cf. G. Krüger, *Einsicht und Leidenschaft, Das Wesen der platonischen Philosophie* (Frankfurt, 1939), pp. 220 ff.

is supposed, has the necessary mental faculty by birth, has purified himself through dialectic from the false conceit of having already attained true existence and not until the practical form of his life has been transformed into true existence, which in itself is related to the true existence of the idea if not identical with it,—not until he has gone through this process of *ὁμοίωσις θεῷ* (*Theaetetus* 176 B) can he understand anything about the true existence of the idea. If the phases of knowing (i. e. perception, concept, thought, etc., *ἐπιστημονικὰ θεωρήματα*) are “rubbed” against one another and refuted by arguments friendly to the opponent, through the use of question and answer, free from jealousy, then *phronesis* and *νοῦς* flare up in the soul about every subject for him who makes as much effort as is humanly possible (*Ep.* VII, 344 B; cf. 341 C and 340 B).

There exists, then, for Plato an intellection of the ultimate idea, but it always remains within the mere possibility of human existence. And the most important point: the indispensable presupposition for the intellection of the idea is that the life of the man himself who tries to know be essentially true, that between him and the idea there be an inner relationship which he can attain only through his life (*πρᾶγμα* cf. *Ep.* VII, 340 B ff.). For man has to become true and similar to God before he will be able to know the truth of the divine; “if the eye were not sunlike it would never be able to perceive the sun.” Thus only the boniform is able to know the idea of the *agathon* (*Republic* 509 A). It is, therefore, not a knowledge which is accessible alike to everybody who has but the requisite intelligence and diligence. Nobody can attain philosophy merely by learning its *logoi* and then, by reason of such hearsay, pretend before himself and others to know “the whole.” Such people are really the true non-philosophers (*οἱ ὄντως μὴ φιλόσοφοι*). They are tinged by the doctrines only from outside, like those whose skin only is tanned by the sun. The genuine philosopher, however, is he in whose soul has flared up, kindled by the sun of the *agathon*, a light related to it (*Ep.* VII, 341 B ff.). Since the life, this *πρᾶγμα*, of the philosopher himself, is the presupposition for the knowledge of truth, Plato also calls this knowledge “*phronesis*,” a term which expresses incomparably well the fact that practical, moral understanding is inseparable from theoretical knowledge.

All these features indicate a sharp contrast to Aristotle. For Aristotle in Book IV of the *Metaphysics* begins the exposition of his metaphysical doctrine with a sentence that sounds exactly like the antithesis of this thesis: "There is a science (*ἐπιστήμη*) which contemplates (*θεωρεῖ*) being *qua* being and its essential attributes" (*Metaphysics* 1003 a 21). For Aristotle the possibility of knowing the idea is never determined by the existence of the philosopher in itself. The truth is a truth for everybody, similar to the truth of physics, just metaphysics, as his "first philosophy" is usually called.⁸

This principal contrast between Plato and Aristotle manifests itself also in the form in which each of them expresses his thought. Plato had to give his philosophy the strange form of Socratic dialogues. Neither before nor after him did any philosopher spontaneously adopt such a method of conveying his doctrines, a method which at first sight seems so unfit for the merely logical and objective chain of reasoning; but, if the Platonic philosophy implies that the real life of the man who philosophizes is the essential presupposition for his recognition of the truth, then there is no more perfect way of expressing this theory than by making evident the ideal of such a philosophical existence through the concrete example of a philosopher like Socrates. With him, every word is really true since it refers to the historical situation of one particular moment and to the friendly or hostile contact with other people.

In the *Seventh Epistle*, however, Plato expresses in his own name the same conception of philosophy which in the dialogues is represented by Socrates, even with clear reminiscences of thoughts which already in his earliest dialogues are put into the mouth of Socrates. Here again in the *Seventh Epistle* every philosophy culminates for Plato in the understanding of the *arete* (344 A). And the picture which we get of him as a teacher of philosophy strikingly resembles, even in externals, the picture drawn of Socrates in the dialogues.⁹ There is not a word that would

⁸ For this fundamental conception of his it is significant that with him the expression "phronesis" is limited again, as it was before Plato, to practical insight and prudence, whereas the highest theoretical knowledge is called "sophia."

⁹ In the *Seventh Epistle* exactly as in the early dialogues, especially in the *Republic* (504 C; 521 C ff.), the longer way, *πεπολοῖς*, toward the

force us to the conclusion that Plato ever used a merely theoretical method of teaching, corresponding to Aristotle's lectures, and that it is such theoretical lectures that formed the basis of the preserved Aristotelian writings. What Plato intends here in the *Seventh Epistle* is "to show to the others through *logoi* what seems to him to be best for men and to give them *advice* how to realize that in life" (327 A). So even here the idea of the *agathon* is the underlying principle and explains at the same time the somewhat complicated structure of the whole letter: it has always been this same advice which he gave to the young Dion as early as 388, then to the tyrant Dionysius in 367, and now for the third time, in 352, to the addressee of his letter. In the principal attitude of his philosophy, then, which he takes pains to make clear here, nothing has been changed since the time when he first acquired it in his early days. This philosophical "advice" is meant to show "what is at present and shall be in the future the divine and human good and just" (*Ep.* VII, 334 D). And, exactly as in the *Gorgias*, the *Phaedo*, and the *Republic*, this philosophical protrepticus ends with a reference to the "olden and holy words" about the immortality of the soul and its punishment in Hades.

2. The Eleatic dialogues of Plato and the Aristotelian criticism of the ideas

If so much is correct, it cannot be without bearing on the better understanding of the dialogues whether it is Socrates himself or other philosophers who express the thoughts and methods there discussed. It is obvious that Plato had to put his Pythagorean philosophy of nature into the mouth of a Pythagorean like Timaeus and could not have it explained by Socrates who in the *Phaedo* appears far superior to all such speculations (cf. Aristotle, *Metaphysics* 987 b 1); and the fact that in those dialogues the subject of which is the Eleatic dialectic it is Parmenides himself or Zeno or the stranger from Elea who leads the discussion apparently has the same meaning.

In the *Republic* (509 A ff.) Socrates tries to explain by a very significant simile that his idea, the *agathon*, lies beyond

recognition of the idea leads through the propaedeutics of the mathematical sciences and of dialectic (*Ep.* VII, 340 C).

being and the knowledge of being. He compares it with the sun: as in the sensible world the sun through its light gives to things not only the power (*δύναμις*) of being seen by us but also makes them come into being, grow, nourish themselves, in short, exist, although the sun itself is not a process but an unchangeable being, a "visible god" (*Timaeus* 40 D), so the ideas in general whose existence we apprehend by our *νοῦς* owe to the *agathon* not only this power of being apprehended but also their objective existence in the light of truth, although the *agathon* itself is not simply existence but beyond existence, surpassing it in rank and power. Here existence and its ontological correlate, knowledge, *νοῦς*, are not as with the Eleatics the ultimate principle of philosophy. Therefore Eleatic dialectic is not sufficient for the higher stage, the Socratic idea. Zeno dissolves the hypothesis of the truth of sense-perception—its multiple existence—by pointing out the logical contradiction contained in it, in order to prove that Parmenides' conception of one-Being, which is apprehensible only by thought, is the higher truth. Socrates applies the same method to the ultimate axioms of thought¹⁰ and uses it in

¹⁰ To be sure, the young Socrates, still inexperienced in dialectic, has to be warned by its master Parmenides into what difficulties, unforeseen by him, the dialectic of the ideas so understood may entangle the still unpracticed. Therefore Socrates asks Parmenides to give him an example of such dialectic. And although Socrates here only listens in silence, at the end of his life, in his discussion with the young Theaetetus (*Theaetetus* 183 E), he still recalls this meeting and speaks with reverence of Parmenides' noble profundity which it is not so easy for everyone to understand. Thereby he probably means to say that it was even then that in the dialectic of Parmenides he realized the whole profundity of his own idea, of the *agathon* (cf. p. 39 *supra*, *Ep.* VII, 344 B, *Symposium* 211 D). The relation between the old Parmenides and the young Socrates in the *Parmenides* is similar to that in the *Theaetetus* between Socrates himself and the young Theaetetus who bears such a striking resemblance to him. And as there Parmenides wants to give Socrates a propaedeutic exercise in his dialectic which will enable him rightly to determine the true relation between idea and reality, as he has it in mind, so here Socrates wants to lead the young Theaetetus from the propaedeutic sciences of mathematics as postulated in the *Republic* (531 D ff.) through dialectic first to the understanding of the term *ἐπιστήμη* which they have all in common, and then to the very idea of the *agathon* which is behind it as their ultimate basis (*Theaetetus* 176 A ff.). Although as a subject of discussion the idea of the *agathon* is not mentioned either here or in the *Parmenides*, yet it is always

order to ascend to the *agathon*, which as the very origin of the universe is the only *ἀντιπρόθεον* on which everything else depends.¹¹

Although for Plato this dialectic is the "key-stone" (*θρυγκός*, *Republic* 534 E) above all the single sciences, still it is to be interpreted only as a discursive way toward the intuition of the *agathon*, not as the intuition itself. In the *Phaedo* (99 C ff.) Socrates states this quite clearly: "In regard to this last, all-embracing cause of the *agathon*, I should very much like to have become the pupil of anyone. Now, since I was deprived of this cause and was in no position either to find it by myself or to learn it from someone else, I ascertained the second best journey toward the search for this cause." This second best journey is dialectic, that way *διὰ τῶν λόγων*, which "in every case assumes as an hypothesis whichever *logos* seems to be the strongest and which sets up the other as true or false, according as it is in contradiction or agreement with it." That is decisive for the comprehension of Platonic dialectic; here even the strongest *logos* is valid as hypothesis only, but, since the sun of the *agathon* is too blinding for us, we have no other refuge than the *logoi* and must investigate the ideas in them as in reflections of a mirror. Although Socrates hesitates to take the *logoi* as mere images (*ὡς εἰκόνας*, *Republic* 510 B; E) of the true existence of the idea in the same sense as the objects of the sensible world, still it is obvious that here as in the *Republic* and in the *Seventh Epistle* it is not yet the true existence of the *agathon* itself which is adequately apprehensible through these *logoi*.

But dialectic—"the way through *logoi*" to the *agathon*—not the idea of the *agathon* itself is the subject of the Eleatic dialogues, especially of the *Parmenides* and the *Sophist*. That Socrates in these dialogues, just as in the *Timaeus*, remains in the background quietly listening to the Eleatic dialectic without interfering with the discussion has rightly been understood

present in the philosophical existence of Socrates and distinctly announces itself to him also in the nature of the young Theaetetus, so similar to his own (*Theaetetus* 143 E; 144 D). The conversation with Theaetetus is later continued in the Eleatic dialogues, the *Sophist* and the *Politicus*.

¹¹ *Republic* 510 B ff. Concerning the ascent to the *agathon* cf. G. Krüger, *op. cit.*, pp. 200 ff.

as very significant.¹² This silence means, so we may understand it, that this philosophical method of the Eleatic certainly has to be taken very seriously and, according to Plato's conviction, represents the most profound dialectic of the idea as taught to his pupils by Plato himself in the Academy yet does not reach that highest level of philosophy which for Plato always can be represented by Socrates alone. Thus in these dialogues we have to deal only with a prelude (*Parmenides* 135 C ff.) to the genuine Socratic idea of the *agathon* to which all dialectic shall lead. It is true, these Eleatics also abandon Parmenides' limited conception and approach Plato's point of view (cf. Aristotle, *Metaphysics* 1089 a 2). They show that dialectic, if properly applied, makes it necessary to assume besides the "one," the "unmoved," the "identical being" of Parmenides also the "many," the "different," the "moved," the "non-being." Yet even this argument is based on the *logoi* and the identity of thinking and being. The Eleatics renounce, therefore, the comprehension of absolute non-being which lies beyond every *logos* and all *dianoia* (*Sophist* 238 C, 258 E) as well as of its opposite, the idea of the *agathon*.¹³

¹² P. Friedländer, *Platon*, II (1930), pp. 505 ff.

¹³ In the *Sophist* (248 E, cf. *Philebus*, especially 30 A) the "absolute being" (*παντελὴς ὄν*) of the Eleatic which embodies "movement," "soul," "thinking," "life," and is therefore a *ζῶον νοητόν*, is not identical with the idea of the *agathon*, but with that of the world; this is also the conception of Parmenides himself in whose terms Plato even in the *Timaeus* defines the world (cf. e. g. *Timaeus* 29 D; 31 D; 62 E with Parmenides, Fr. 8, 4, 44, 50, 60). It is certainly not by chance that by this *παντελὴς ὄν* one is reminded of the *παντελὴς ζῶον* in the *Timaeus* (31 B), where the world appears as an image of this *παντελὴς ζῶον*. In the *Republic* (509 ff.) the many *εἶδη νοητά* of the world of ideas in the light of the *ἀλήθεια* integrated into the unity of "being" and *νοῦς* are compared in the simile of the sun with the many individual things of the material world which is enclosed by the one celestial globe. For Plato this world is a *ζῶον ἐμψυχον ἐννοον*; the individuals are included in the unity of the world-soul and supported by it, just as the single parts of an organism are included in its soul. Similarly, according to the *Sophist* the different opposing ideas lose their absolute independence within the *ζῶον* of the *παντελὴς ὄν* and interlace with one another, an entanglement to be unraveled only by the *diaeresis* of the dialectician. We must not fall into the error of the Neoplatonists who understood as "true *logos*" what by Plato was meant as mythical allegory; for him the *logos* can be apprehended only by dialectic and its *logoi*. But what

It has been assumed that Plato here in his late period gives up his former conviction of the transcendence of the idea in favor of a conception of immanent being closer to the Aristotelian point of view.¹⁴ Plato certainly is no longer satisfied with that conception of transcendence to be found in the more popular and protreptical dialogues in which he contrasted the idea, the "one," "identical," "eternal" with the objects, the "many," the "different," the continuous becoming and movement. He shows, on the contrary, that such a naïve conception of transcendence must lead to agnosticism (*Parmenides* 137 A ff., *Sophist* 248 A ff.) and must provoke all the eristic objections such as are incessantly brought forward by Aristotle in his criticism of the Platonic concept of the idea. Plato furthermore proves that all the opposites which formerly separated ideas and reality must rather be contained in the idea itself.¹⁵ For the antitheses themselves are *logoi*; yet everything which the *logos* recognizes as true according to the Socratic assumption must be considered as an idea or rather as the hypothesis of an idea. And it is this interlacing with one another which in these later dialogues dialectic through its diaeresis has to dissolve like an organic body (*σῶμα*) into its parts and to combine again into its original unity (*Sophist* 251 A, *Philebus* 14 D, *Parmenides* 129 B, cf. *Phaedrus* 266 B). Since the Eleatic identification of thinking and being is closely related, however, to the Aristotelian conception of being, it is not astonishing that these particular dialogues come

in the allegorical myth of the *Timaeus* appears as *παντελὴς ἕψων* obviously is identical with what in the dialectic of the *Sophist* is understood as *παντελὴς ὅν*, i. e. the idea of this world. Shorey (*The Unity of Plato's Thought* [1903], p. 37; n. 256; *Class. Phil.*, XXIII [1928], p. 344; cf. also Cornford, *Plato's Cosmology* [1937], pp. 40 ff.) objects to this generally accepted interpretation. He contends that such a conclusion does not necessarily follow, since in the *Timaeus* no more is said than that the world, being both a living being and an image of the idea, must be a perfect living creature; that, however, must not imply that all ideas, the world of ideas as a whole, are also one. This objection certainly is logically correct, but the standard of exact logic cannot be applied to the myth. Furthermore, the *Sophist* proves in conclusive dialectical procedure that the idea of the "perfect being" is considered to be a living being.

¹⁴ Cf. J. Stenzel, *Studien zur Entwicklung der platonischen Dialektik von Sokrates zu Aristoteles* (Breslau, 1917), e. g. p. 58.

¹⁵ Cf. p. 52 *infra*.

often very near to the Aristotelian train of thought. Besides the fact that in these dialogues the idea of the *agathon* is kept entirely in the background, so that they are of an abstract-theoretical character, noticeable also in the language and the form of the dialogues, they even contain arguments used by Aristotle himself in his criticism of the Platonic doctrine of ideas, such as in the *Parmenides*, for instance, the objection of the so-called *τρίτος ἀνθρώπος* which occurs in the Aristotelian *Metaphysics*.¹⁶

At any rate, so much can be shown from the *Parmenides*, that Plato did not feel obliged to change in the least his original conception of ideas on account of the discussion taking place among his younger pupils. This dialogue is so effective just by reason of the superiority which Plato shows in himself proposing all the possible objections and by the inability of the young people to meet his arguments, which inability is attributed to their lack of training in higher dialectic. From these late dialogues, then, it cannot be concluded that Plato, near the end of his life, gave up his doctrine of ideas and developed toward the Aristotelian point of view of the immanence of the idea.

¹⁶ *Parmenides* 132 A ff., cf. *Republic* 598 A; *Metaphysics* 990 b 17; 1079 a 13. This passage of the *Metaphysics*, however, as we learn from Syrianus, *ad loc.* (pp. 120, 34; 195, 1 Kr.; cf. also Karpp, *Hermes*, LXVIII [1933], p. 386), is nothing but an epitome of the Aristotelian special treatise "On the (Platonic) ideas"; that explains at the same time why it is that the same sentences are inserted into the *Metaphysics* at two different places (I and XIII). If Jaeger is right in saying that the first book of the *Metaphysics* was written shortly after Plato's death, it would follow that this treatise on the Platonic ideas must have been written while Plato was still alive, so that he may well have been familiar with its arguments (cf. Fr. 8 Rose² and Zeller, *Philosophie der Griechen*, II b⁴, pp. 88 ff.; Natorp, *Plato's Ideenlehre* [1903], p. 284, cf. p. 218). Since the *Parmenides*, on the other hand, as is generally assumed to-day, was written after the *Theaetetus*, certainly after 369/8, the year when Aristotle, according to ancient tradition, entered the Academy, it would be easy to conjecture that the *Parmenides* is meant to be an answer to the criticism of the Platonic ideas brought forward by Aristotle, or at least by the circle of Plato's pupils whom Aristotle seems to represent in his treatise. This opinion is supported also by Natorp's correct observation (*op. cit.*, p. 218) that Aristotle's criticism of the Platonic doctrine of ideas obviously does not refer to the *Parmenides* at all. The question has always been raised whether it is mere chance that the youngest participant of this dialogue whom Parmenides addresses in presenting his masterly dialectic is also called Aristotle; but this cannot be decided with certainty.

This is evident also from the *Timaeus*; in this dialogue which was written at about the same time as the *Sophist* or rather somewhat later¹⁷ it is just the transcendence of the idea which is particularly emphasized (27 D). If that were not true, then Aristotle's whole criticism of Plato in the *Metaphysics* would be senseless.¹⁸

3. The Platonic and Aristotelian conceptions of mathematics

Aristotle's attacks are directed with still greater ardor, however, against another decisive point of Plato's doctrine, namely his "Pythagorean" conception of mathematics. To Aristotle this seems so completely to determine the whole Platonic philosophy that he claims "in most parts it simply follows the Pythagoreans," although he admits that it has "a few characteristics of its own" (*Metaphysics* 987 a 30-31).

Ever since mathematics as a science came into the world, which was the accomplishment mainly of the Pythagoreans,¹⁹ the question whether its objects are real and existent has remained a fundamental philosophical problem. For the existence of these objects as recognized by this science with more exactness and certainty than any other science has attained up to the present day is of an entirely different nature from the existence of all the other objects of this world; numbers, dimensions, geometrical figures, as conceived by the mathematician, are not given in any phenomenal perception outside himself and are existent only in his thinking, in other words they are ideas, *εἰδῆ*.²⁰

For the Pythagorean mathematician, therefore, there is no doubt about the existence of ideas; it is proved to him by the

¹⁷ There are many features which both dialogues have in common. Cf. *Sophist* 265 ff., but also the other late dialogues, *Philebus* 30 A, *Phaedrus* 245 ff., 270 D ff.

¹⁸ Aristotle is well acquainted with the content of the late Platonic dialogues; cf. the passages about the *Sophist* in O. Apelt's edition, pp. 32 ff. and the passages about the other dialogues in Bonitz, *Index Aristotelicus*, s. v. Plato, pp. 598 ff.

¹⁹ According to Aristotle's testimony, *Metaphysics* 985 b 23 ff.; cf. Plato, *Republic* 530 D ff.

²⁰ Such they were probably called even before Plato: *Republic* 510 D 5; cf. J. Burnet, *Greek Philosophy Thales to Plato*, § 120 ff. and A. E. Taylor, *Varia Socratica*, pp. 258 ff.

knowledge of his science itself,²¹ and the Pythagorean philosophy is based upon this new conception of existence as upon an entirely new foundation (Aristotle, *Metaphysics* 987 a 20, 1078 b 21) which remains the basis of the Platonic and Aristotelian philosophy as well. In the sixth and seventh books of Plato's *Republic* Socrates expresses his conviction that the knowledge of mathematics is the necessary presupposition of the true understanding of his ideas. Only he who has recognized the peculiarity of the mathematical objects which exist merely in thought has an open eye for the world of ideas (*Republic* 527 E; 533 A, D). To Socrates, therefore, the study of mathematics, by which the mind is trained to turn from the perception of the senses to the objects that exist in thought alone, is the indispensable introduction for the young philosopher. So far Socrates, as he himself emphasizes (*Republic* 530 D), is in perfect agreement with the Pythagoreans. But whereas for them there are no other εἶδη except just these mathematical objects, for Socrates the realm of the true ideas and of the *agathon* begins only beyond this boundary; thus the mathematical objects have an intermediate position between the ideas themselves and the perceptible things.²² Plato, then, took over the whole Pythagorean theory and ontology of mathematics into his thinking,²³ the only difference being that to him those principles (like "the odd" and "the even") which the Pythagoreans recognized as ultimate ἀρχαί are merely ἐπιθέσεις (*Republic* 510 C ff., cf. 523 C) and that the mathematical objects, especially the numbers, are not immanent in the empirical objects (*Republic* 530 A ff., 531 A) but exist rather as transcendent substances (*Republic* 524 E, αὐτὸ τὸ ἐν, αὐτοὶ οἱ ἀριθμοί), i. e. as individual objects of thinking,²⁴ as "ideal" numbers.

²¹ Aristotle, *Metaphysics* 990 b 12, 987 a 27, 1090 a 27; cf. Plato, *Parmenides* 132 B, *Republic* 476 E, and Syrianus, *Metaphysics*, p. 177, 27 (τεκμήριον ἰκανόν).

²² Cf. *Republic* 509-535 and Aristotle, *Metaphysics* 987 b 14; 995 b 17; 1002 b 13 ff.; 1028 b 20; 1042 a 12; 1059 b 6. A more detailed study of the mathematical problems involved will be given in an article dealing with the development of Greek mathematics in its relation to Greek philosophy which is to be published in Neugebauer's new *American Journal for the History of Mathematics*.

²³ Cf. *Philebus* 16-31, especially 23 C ff.; *Gorgias* 507 E; *Protagoras* 356 ff.; *Meno* 81 ff. and above all the *Timaeus*.

²⁴ Aristotle, *Physics* 203 a 6; *De Caelo* 300 a 15; *Metaphysics* 987 b 27;

Whatever the historical Socrates may have thought, for the Socrates of the Platonic dialogues the mathematical idea of the Pythagoreans is the inductive premise which guarantees to the human mind the truth of the idea in general and of the *agathon*, although in reality it is rather this idea which is itself the ultimate unconditioned premise for the truth of the mathematical objects and their comprehension.²⁵ To be sure, the idea of the *agathon* flares up immediately in the moral existence of Socrates as the true origin of his whole being and thinking to be perfected and even to be found only beyond this finite world; this idea Socrates realizes with his life and by his death bears witness to it (*Phaedo*, especially 64 A ff.). Yet theoretically the essential character of ideas in general cannot be proved except by way of mathematics. It is only by "analogy" (*Republic* 534 A) with the objects of Pythagorean mathematics that Socrates can explain the ontological character of his idea and of the *agathon*. As the mathematical ideas, apprehensible in the thinking of the *dianoia*, stand to the perceptibles, so the ideas and the *agathon* intuited by the *noûs* stand to the mathematical objects. And as for the Pythagoreans the perception of the senses provides nothing but images of mathematical ideas (Aristotle, *Metaphysics* 985 b 27; 987 b 11) so for Socrates the mathematical objects themselves are in turn nothing but images of the true idea.

In sharp opposition to this opinion of Plato's Aristotle simply denies the objective reality of the mathematical objects. To him numbers and geometrical concepts are not beings (*οὐσίαι*) but mere abstractions of thought; real objective existence he ascribes only to the phenomenal sensibles with their perceptible continuum. While the Pythagoreans and Plato did not recognize the continuum (*συνεχές*) as a mathematically exact concept and therefore did not accept it among their definitions (*Metaphysics* 1036 b 9), Aristotle tried to reduce the mathematical concepts, especially that of the infinite, to the concept of the continuum which, as a mathematical concept, is still unknown to Plato and which Aristotle himself may have been the first to introduce into

990 a 15, b 21; 996 a 5; 1001 a 9; 1080 b 16; 1083 b 8-19; 1090 a 20-31. Cf. p. 51 *infra*.

²⁵ Cf. *Republic*, books VI and VII. Plato seems to have dealt with this problem more extensively in his lectures *Περὶ τοῦ ἀγαθοῦ*, cf. Aristotle *apud* Aristoxenus, *Harmonics* II, 30 (Marq.); cf. p. 37 *supra*.

mathematical discussion. According to Aristotle it is only the thinking of the mathematician which in the continuous reality of phenomenal perception draws the sharp limits of his concepts; in this exact sense, therefore, the object of these concepts exists only *in abstracto*, not in reality (cf. *Metaphysics* 1051 a 22; *De Anima* 431 b 12, etc.). Thus the concept of the infinite, the *ἄπειρον*, especially has not for him the character of a real mathematical existence, as it has for Plato and the Pythagoreans, but is reduced to the possible repetition of certain subjective processes of thought as its basic phenomenon (cf. especially *Physics* III, 4 ff.).²⁶

4. The contrast between Plato's and Aristotle's ontological conception of the ideas

If thus in mathematics and consequently also in metaphysics Aristotle recognizes the phenomenal perception alone as the ultimate criterion of truth, he tries, on the other hand, to maintain with Plato the general truth of the idea and of the thought which comprehends it in opposition to mere sensual perception. But, once he has undermined the idea in the sphere of mathematics, the means of understanding the idea is for him reduced to the *logos* alone, the universal concept which, he holds, defines the universal essence of the particular thing. What, then, is the being of the ideas, and where can man find them? Whereas for Plato the true being of things was the *ἐν παρὰ τὰ πολλά*, the idea which exists beyond and above them, Aristotle conceives it only as the *ἐν κατὰ (ἐπὶ) πολλῶν* (*Anal. Post.* 77 a 5), i. e. as the "universal" (*καθόλου*, a term first coined by him) which belongs to several things, but which in reality does not exist as we think

²⁶ M. Dehn ("Espace, temps et nombre chez Aristote," *Scientia*, Juillet-Août 1936, pp. 7 and 35) interprets very well: "les 'mouvements de la raison' . . . qui conduisent à compter sont discontinus (Aristotle, *Physics* 204 b 23, *De Lin. Insect.* 969 a 33) . . . tout ce qui représente nous paraît être continu; c'est un désaccord fondamental entre l'intérieur et l'extérieur, car l'expression par la parole (*λογισμός*, *συλλογισμός*) est discontinue. Ce désaccord entre la structure discontinue de l'âme et celle en apparence continue du monde extérieur est la 'cause cachée de toutes les apories et paradoxes'." Plato, on the contrary, points out that *τὰ ψυχῆς τῶν τοῦ σώματος ἔσοιτο πρεσβύτερα* and *λογισμοί . . . πρότερα μήκους . . . καὶ πλάτους καὶ βάθους, . . . εἴπερ καὶ ψυχὴ σώματος* (*Laws* 896 C-D).

it in abstracto, in the *logos* (*Metaphysics* 1077 b 1; 990 b 7 ff.; 1040 b 28). Substance (*οὐσία*) means to him first that of which, as underlying subject (*ὑποκείμενον*), all else is predicated (*Metaphysics* 1017 b 13; 1028 b 36; 1029 a 8; 1038 b 15; *Categ.* 2 a 11). This, however, can be only the particular in which the idea as the universal merely inheres (*De Anima* 432 a 3). So definitely is Aristotle's thinking determined by this conception of being that he cannot imagine the Platonic idea to be anything except a particular object or a universal concept (*Metaphysics* XIII, 10),²⁷ although it is neither the one nor the other, as Syrianus properly objects (*Metaphysics*, p. 193, 9 Kr.). The dialogue *Parmenides* is meant to show specifically in what kind of dialectic one becomes entangled if one takes the idea to be a particular object (131-136).

With his conception of *οὐσία* as particular substance Aristotle returns in fact to the pre-Socratic conception of the phenomenal thing, in overcoming which conception lay the epoch-making accomplishment of the generation before Aristotle (cf. *Metaphysics*, I, 5). On the other hand, Aristotle has to admit that all knowledge is essentially directed to the universal, not to the particular (*Metaphysics* 1087 a 7). Considering himself as the mediator between the opposite directions of thought he therefore takes the idea, which is intelligible and defined in the *logos*—the substantial “form”—, as another (second) *οὐσία* (*Categ.* 2 b 7),²⁸ although, as he himself admits, he is unable to decide with certainty which of the two substances represents true and real being (*Metaphysics* III, 4 and 6; XIII, 10). Lastly he sees true *οὐσία* just in the “combination” (*σύνολον*) of these two aspects of being, i. e. in that dynamic process of entelechy in which the substantial form of the idea manifests itself in the particular as the actualization of that thing's mere potentiality. Thus for him this being is to be understood only as this “combination,” only as the correlative relation of the two factors to each other, as their *analogon*, i. e. as “*analogia entis*” (*Metaphysics* 1048 a 37; 1043 a 5).

For Aristotle, then, the idea (the general character of the particular which is comprehended by the definition of the *logos*) has its real being within the particular itself as its formal cause.

²⁷ Cf. Appendix (to be published in the April number of this Journal).

²⁸ Cf. W. Jaeger, *Aristoteles*, p. 45, n. 1.

But the species does not exist in abstract thinking alone as a logical formula of classification, but has its being in the procreative process itself as the life of the genus, its flesh and bones as it were (*Metaphysics* 1034 a 6). The universal is in the seed itself, in that "potency" of the living being to create other individuals of its own species. Thus for Aristotle the sentence "a man begets a man" becomes the formula for the real essence of the idea within the cycle of becoming (*Metaphysics* 1073 a 1; 1092 a 16).²⁹ By declaring the static transcendence of the Platonic idea to be a mere abstraction of logical thinking and by transferring its true reality into the dynamic process of nature in which are developed all the seeds of life Aristotle obtains a magnificent image of the creative and productive *physis*, so decisive for his observation and description of phenomena, especially in the field of biology of which he is the acknowledged master.

The truth inherent in this concept cannot but impress everybody. Its underlying principle, that the eternal idea finds its earthly realization in the temporal process of perpetual regeneration and procreation (*ἀεργενές*) through which the old is constantly replaced by something new, was already anticipated by Plato in the famous passage of his *Symposium* (206 C-208 B). But for Plato the organic form, as identically preserved in the process of reproduction and regeneration, is only a faint and far removed image of the idea; and whereas for him this procreative and productive instinct of the living being (i. e. the *eros* of the mortal nature for the unattainable eternity of the idea) is *daemonic*, for Aristotle it is divine, the direct expression of the divine *νοῦς* and its ideas in this world: *ἐν πᾶσι . . . τοῖς φυσικοῖς ἐνεστί τι θαυμαστόν*, i. e. *θεοί* (*De Part. Anim.* 645 a 16). These ideas, Aristotle believes, we understand adequately through our universal concepts. Thus the free self-mastery of nature, the spontaneity of life (*ψυχή*) which according to Plato implies the very abyss of the *daemonic* is firmly fettered by the logical concept which is meant to define the truly creative power of the particulars themselves.

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(To be Continued)

²⁹ Cf. E. Frank, *Deutsche Vierteljahrsschrift für Literaturwissenschaft und Geistesgeschichte* (1927), pp. 610 ff.

THE MEANING OF 'ΕΚΤΗΜΟΡΟΣ.

W. J. Woodhouse in his extremely brilliant book on the Solonian reforms¹ incidentally discusses the question of whether the *ἐκτῆμοροι*, mentioned by Aristotle, *Ath. Pol.*, 2, and by some other authors, had to make over one-sixth of the produce of their farms to their creditors or whether they retained that portion for the maintenance of themselves and of their families. He arrives at the conclusion that the second answer to the question is correct; and, as far as I can see, his reviewers have accepted his interpretation up to the present date. Yet it seems to me that he can be proved to be wrong in regard to this special point; and the question is perhaps all the more worthy of reconsideration since his solution of this special problem is not an integral part of his analysis, so that its reversal does not detract from the value of his excellent work as a whole.

Since Woodhouse frequently warns against attacking the question on the basis of *a priori* considerations let us first turn to the ancient sources. Leaving aside Aristotle for the moment, there are two passages in ancient authors which state clearly that the hectemores paid, not retained, one-sixth of the produce of their farms; 1) Plut., *Sol.*, 13: ἐγεώργουν ἕκτα τῶν γινομένων τελούντες; 2) Hesych., *s. v.* ἐπίμορτος: ἐκτῆμοροι οἱ τὸ ἕκτον τελούντες. There are two passages which are ambiguous: 1) Hesych., *s. v.* ἐκτῆμοροι: οἱ ἕκτῳ μέρει τὴν γῆν γεωργοῦντες; 2) Photios, *s. v.* πελάται: ἐκτῆμοροι ἐπειδὴ ἕκτῳ μέρει τῶν καρπῶν εἰργάζοντο τὴν γῆν. There is one passage which states equally clearly that the hectemores received one-sixth of the produce: Eustath. in Hom. *Od.*, T, 28: ἐθνικὴ δὲ λέξις καὶ ἡ μόρτη, τὸ ἕκτον, φασί, μέρος τῶν καρπῶν, ἣ ἐδίδοτο τοῖς ἐκτημορίοις (*sic*) ὡς ἐν ἀωνύμῳ κείται λεξικῶ ῥητορικῶ. Thus far then, since Eustathius seems not particularly well informed, ancient tradition is decidedly in favor of the first interpretation quoted above.

But what is the opinion of Aristotle, by far the most important of the ancient authorities on the question? The passage in the *Ath. Pol.* runs as follows: καὶ ἐκαλοῦντο πελάται καὶ ἐκτῆμοροι. κατὰ ταύτην γὰρ τὴν μίσθωσιν ἡργάζοντο τῶν πλουσίων τοὺς ἀγρούς.

¹ *Solon, the Liberator* (Oxford University Press, 1938).

ἡ δὲ πᾶσα γῆ δι' ὀλίγων ἦν, καὶ εἰ μὴ τὰς μισθώσεις ἀποδίδοιεν, ἀγώγμοι καὶ αὐτοὶ καὶ οἱ παῖδες ἐγίγνοντο. As Woodhouse himself points out, *μισθωσις* means either rent, or lease, or the property which is leased, or the contract of lease, but never hire or wages.² Consequently he translates the first statement made by Aristotle quite correctly as follows: "The hectemores were so called because it was at this rent that they cultivated the land of the rich." But he plainly contradicts himself when he goes on to say (p. 44): "But the question still remains—at what rent, or on what terms exactly? In which direction did the rent pass?" Since according to his own very convincing theory the creditor became the owner of the farm on which the former proprietor stayed as a life tenant with the option of redemption, the *rent* obviously had to be paid to the creditor as to the owner; and, if there should be any uncertainty still left, it is eliminated by the following sentence: καὶ εἰ μὴ τὰς μισθώσεις ἀποδίδοιεν, ἀγώγμοι . . . ἐγίγνοντο. Here the men who pay the rent are plainly the debtors. Nor can the plural *μισθώσεις* in the second sentence be construed as meaning five-sixths in contrast to *μισθωσις* which means one-sixth. No reasonable man would call a rent of five-sixths of the produce rents while calling a rent of one-sixth rent; and the difference between the singular in the first and the plural in the second sentence is fully accounted for by the fact that Aristotle speaks first of the rent in the abstract, while he later refers to the specific rents which the debtors, each individually, had to pay. If, therefore, the *μισθωσις* in the first sentence, is a rent of one-sixth, as Woodhouse correctly interprets it, the *μισθώσεις* in the second sentence must be the same. Aristotle's statement is not ambiguous at all, but agrees fully with that of Plutarch—at least as far as the term *ἐκτήμορος* is concerned.

Woodhouse, however, bases his opinion not so much on an interpretation of Aristotle, whose statement he considers ambiguous and obscure, as on an analysis of the word *ἐκτήμορος* itself. He says (p. 47): "How a word meaning 'sixth-parter' should in its Greek form signify payment or surrender rather than reception or retention of one-sixth is not quite clear"; and in confirmation of this view he mentions the use of *ισόμορος* in Hom., *Il.*, O, 209 in the sense of "having an equal share."

² Cf. the evidence collected by Woodhouse on pp. 65-66.

But neither of these arguments is conclusive. For even if words of this type ordinarily meant "having a certain part"—which, as we shall see, is not true—one would still have to take into consideration the facts that *ἐκτήμορος* is a technical term which originated in comparatively late times and in application to a peculiar historical situation and that terms of this kind do not always follow the general semantic laws of a language. The testimony of a man like Aristotle who is likely to have had some factual knowledge, therefore, would still weigh heavily even against otherwise incontestable linguistic or semantic analogies. But in fact there does not exist any law according to which the meaning of *ἐκτήμορος* must be analogous to that of *ισόμορος* in the *Iliad*. On the contrary, adjectives and nouns of this type are *very* frequently used in two different senses. *δεκατεντής*, for instance, in Greek and *decumanus* in Latin are perhaps not quite analogous to *ἐκτήμορος* inasmuch as they are derived from the verbs *δεκατεύειν* and *decumare*. Yet it is significant that both words can mean one who pays as well as one who collects the tithe, that is, they can refer to the same action in opposite directions. This, by the way, is very common with other adjectives too. So *αἰδοῖος*, for instance, means one who feels *αἰδώς* and acts accordingly as well as one who is an object of *αἰδώς*. Furthermore, the Greek and Latin words *δεκατεντής* and *decumanus* have exact equivalents in the English word "tither" and the German word "Zehntner," both of which have the same double meaning; and both these modern languages through the words "tithe-farmer" and "Zehntmann" provide us with perfect analogies to *ἐκτήμορος* in the sense required by Aristotle and Plutarch.

This makes it quite clear that the form of the word as such does not give us a cue to its exact meaning as a technical term used in a special historical situation. Ancient tradition, on the other hand,—apart from Eustathius whom nobody will consider as an authority in such a matter—is unanimous in supporting the interpretation which Woodhouse rejects.

Let us then turn to an analysis of the historical situation. Woodhouse is absolutely right in rejecting arguments based on a comparison with modern conditions. What is a comparatively light burden in one period may be a very heavy burden at another time and under different economic conditions. If we want to arrive at a well-founded conclusion, we have to consider the

special situation prevailing at the time in question; and though we know comparatively little about pre-Solonian times there are some points that may help us to arrive at a definite conclusion.

1. Woodhouse himself has shown quite conclusively that the hectemores were not wage-earning laborers who worked on an estate during the season but that they lived on and from the farms on which they worked. One may therefore contend that, while one-sixth of the harvest might be a possible or even a reasonable wage for seasonal laborers, a rent of five-sixths of the produce of a farm which was the exclusive means of subsistence for a family would be almost incredible. But since we do not know the economic situation of the period and the degree of the oppression of the poor this argument may perhaps be too general.

2. The fact that the state of bondage which the name of *ἐκτήμορος* implies was so widespread at the time of Solon and that it always resulted from debts shows that very many people had to incur debts in order to keep their farms going. From this one can infer that under the economic conditions of the time it was extremely difficult to live on the produce of a farm of moderate size even when it was free from debts. How can we suppose that these farmers were able to live on their farms at all when they had to make over five-sixths of the produce to their creditors?

3. This second argument gains in weight if one considers that—as Woodhouse himself has pointed out (p. 46)—it was the bondage in which they were kept even more than the amount of the rent which caused the grievance and became the cause of an impending revolution.³ If the hectemores had been compelled to hand over five-sixths of the produce of their farms, they would have been in such a state of starvation that probably nothing else would have interested them.

4. If the hectemores had been able to hand over anything like five-sixths of the produce of their farms to their creditors, it is difficult to see how any creditor could have been so foolish as to sell his hectemores as slaves when they were unable to pay the whole amount of the rent. In order to get any revenue out of the farm he would have had to buy other slaves or to hire free

³ Cf. Aristotle, *loc. cit.*: χαλεπώτατον μὲν οὖν καὶ πικρότατον τοῖς πολλοῖς τῶν κατὰ τὴν πολιτείαν τὸ δουλεῖν. Cf. also *infra*.

laborers, whom he would have had to feed or to pay; and it is scarcely credible that in this way he would have been able to get still more out of the farm than five-sixths of the value of the gross produce or an approximate amount.

5. That in fact a rent or tax, not of one-sixth, but of one-tenth of the produce, was considered a rather heavy burden even under the better economic conditions of the time of Pisistratus is proved by the story told by Aristotle, *Ath. Pol.*, 16: 'Ἰδὼν γάρ τινα . . . ἐργαζόμενον, τὸν παῖδα ἐκέλευεν ἐρέσθαι τί περιγίγνεται ἐκ τοῦ χωρίου. ὁ δ' 'ὅσα κακὰ καὶ ὀδύνας,' ἔφη, 'καὶ τούτων τῶν κακῶν καὶ ὀδυνῶν Πεισίστρατον δεῖ λαβεῖν τὴν δεκάτην.' . . . ὁ δὲ Πεισίστρατος . . . ἀτελῇ ἀπάντων ἐποίησεν αὐτόν. The significant fact here is not so much the complaint of the peasant, since taxpayers are always complaining, but the fact that Pisistratus relieves him from the tax and so implicitly acknowledges that the complaint was justified.

6. The most conclusive argument, however, derives from the way in which the status of an hectemore originated. According to Woodhouse, who advances very good arguments for this part of his theory, the free peasant, when he was compelled to take up a loan, had to sell his farm to the creditor with option of redemption, but stayed on it as a tenant and henceforth had to make over a certain portion of the produce to the new owner. That the fraction of one-sixth plays a special part in these transactions is explained by the system of coinage and measures prevailing at Athens at the time: one Attic medimnos containing six hecteis and one Attic drachma being equal to six obols.

All this is very convincing; but it is, of course, quite impossible that the debtor, immediately after having contracted the loan, should have had to pay an interest equal to five-sixths of the produce of the whole farm, that is, of his only productive property of which up to that moment he had been the free owner. Even Woodhouse admits this (p. 157). But in order to make his interpretation of the word *ἐκτήμορος* fit in with the rest of his theory he constructs a development from the status of a simple debtor who has sold his property to the creditor to the status of a real hectemore, and since nothing of this kind is mentioned in ancient tradition he accuses Aristotle and Plutarch of having neglected to distinguish between the different stages of this development.

But let us look a little more closely at Woodhouse's theory. He thinks that the debtor at first had to pay only one-sixth of the produce of his farm to the new owner but that he frequently would not have been able to pay this rent in full. In this case the arrears would again be funded as a loan on which an interest of one-sixth (of the arrears or of the produce of the farm?) would have to be paid. These arrears would soon pile up beyond all hope of clearance; and, when this stage was reached, the tenant, in Woodhouse's opinion, would *either* be haled into debt slavery *or* alternatively (*sic*) be reduced to hectemore status, that is to the status of a man who had to pay *five-sixths* of the produce of his farm.

This explanation is altogether incredible, quite apart from the fact that it has not the slightest foundation in ancient tradition, for if the creditor had the right to sell the debtor as a slave this right must have been dependent upon the debtor's inability to pay the interest or rent and not upon his inability to pay an excessive rent. Why then should the landlord have waited until the debt had grown beyond all measure instead of liquidating it by selling the debtor as soon as possible, for, if the status of a hectemore originated in the way in which Woodhouse suggests, it must have been clear long before that stage was reached that the debtor would never be able to pay one-half or one-third of the produce as rent, much less five-sixths, and what, in this case, would have been the advantage of making a man a hectemore anyway, since nobody could ever have fulfilled the obligations connected with that status?

Furthermore, if Woodhouse's explanation is correct, there must have been many people who paid one-sixth, or two-sixths, or three-sixths, and so on. How then are we to believe that they were not called hectemores until they had come down to keeping only one-sixth for themselves and handing over the rest to their creditors—especially since in Woodhouse's own opinion real hectemores, that is people who actually were able to pay five-sixths of the produce, never existed, but only legal hectemores, that is men who were under legal obligation to pay that amount but were never able to do so?

All this makes it perfectly clear that this part of Woodhouse's theory is based exclusively on the belief that the word *ἐκτῆμορος* must be interpreted on the analogy of *ισόμορος* in the *Iliad*. This

belief, however, as has been proved above, is erroneous. The theory itself then becomes altogether untenable.

This does not at all detract from the value of Woodhouse's work as a whole. On the contrary: since the theory of a rent of five-sixths of the produce is less reconcilable with his own explanation of the origin and nature of the hectemore status than with that of any other scholar, its reversal makes the rest of his work all the more convincing and consistent.

We find, then, furthermore, that none of the statements made by Aristotle is erroneous, as far as we can check them, though his account is so brief and concentrated that it requires careful interpretation in the light of information gained from other sources.

In the first sentence: ἦν γὰρ τότε ἡ πολιτεία τοῖς τε ἄλλοις ὀλιγαρχικὴ πᾶσι καὶ δὴ καὶ ἐδούλευον οἱ πένητες τοῖς πλουσίοις καὶ αὐτοὶ καὶ τὰ τέκνα καὶ αἱ γυναῖκες, καὶ ἐκαλοῦντο πελάται καὶ ἐκτῆμοροι the word ἐδούλευον cannot mean that the hectemores were actual slaves, since otherwise there would be no difference between their status at the time when they paid the rent and at the time when they had become unable to do so and consequently—but only then and not before as Aristotle himself tells us in the next sentence (cf. *supra*)—became ἀγώγμοι together with their wives and children. But it is a well known fact that, while the noun δοῦλος applies only to real slaves, the verb δουλεύειν is used very freely, for instance, in order to characterize the relation of the citizens of a city to a tyrant or of barbarians to their king, etc., where there is no question of real slavery. What the word means in the passage quoted becomes clear in the sentence: καὶ γὰρ δεδεμένοι τοῖς δανείσασιν ἐπὶ τοῖς σώμασιν ἦσαν μέχρι Σόλωνος. This refers partly to the preceding sentence in which Aristotle has stated that the hectemores became ἀγώγμοι if they were unable to pay the rent. The difficulty arising from the fact that Aristotle in one sentence speaks of a loan and in the other of a rent has been solved most admirably through Woodhouse's theory that the loan was really the price for the farm which was sold with option of redemption so that the interest on the loan and the rent for the farm on which the former owner stayed as a tenant were actually identical. Still, in what did the δουλεύειν consist at the time when the tenant was still able to pay the rent and hence was not yet ἀγώγμος? This can be answered

without too great difficulty. δεδεμένοι τοῖς δανείσασιν ἐπὶ τοῖς σώμασιν ἦσαν must imply more than the fact that the tenant could be sold into slavery if and when he was unable to pay the interest. Otherwise he could have avoided this consequence by handing over one-sixth or whatever portion of the produce was required—immediately after the harvest he must always have been able to do that—and leaving the farm. Obviously this was not possible since there is no indication that it ever happened, and that is what δεδεμένοι ἐπὶ τοῖς σώμασι and δουλεύειν means. When a peasant had sold his farm with option of redemption he and his family were kept in bondage and had to stay on it either until they were able to buy it back—which may have occurred rarely—or until they were unable to meet their obligations and so, at the will of their creditor and landlord, could be sold as slaves. This also explains perfectly why χαλεπώτατον μὲν οὖν καὶ πικρότατον ἦν τοῖς πολλοῖς τῶν κατὰ τὴν πολιτείαν τὸ δουλεύειν.

No further explanation is necessary, for Woodhouse's objection to Aristotle's statement that οἱ πένητες were hectemores is scarcely worth mentioning, since any such statement would naturally have to be taken *cum grano salis*, and, if, as Woodhouse himself has pointed out, originally all Athenian citizens owned a lot on which they lived or could live with their families and if poverty consequently consisted mainly in the necessity of contracting debts, Aristotle's statement was probably largely true.

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NOTE ON THE APOCRYPHAL OATH OF THE ATHENIANS AT PLATAEA.

In a recent publication¹ Louis Robert has discussed an inscription containing both the oath taken by the Athenian ephebi as well as that to which the Athenians were presumed to have subscribed before the battle of Plataea. These two documents were inscribed in a stoichedon manner upon the same stele, which was originally set up in the sanctuary of Ares and Athena Areia in the deme of Acharnae. As this note concerns only the latter portion of the oath at Plataea, the body of the text is not incorporated here.²

As the documents stands, it presents a curious mixture of at least two different things: 1) lines 21-35 concerning an oath pertaining to some alliance which included Athens, Sparta, and Plataea; and 2) lines 36-38 which certainly hark back to conditions of warfare imposed by the Amphictyonic league.³ Lines 39-46 are devoted to an enumeration of the curses which were to befall the unfortunate city whose citizen did not abide by his oath. It is this last section which presents peculiar difficulties. Robert has transcribed it as follows:

- Καὶ εἰ μὲν ἐμπεδορκοίην τὰ ἐν τῷ ὄ-
 40 ρκωι γεγραμμένα, ἢ πόλις ἢ μὴ ἄνοσος εἶ-
 η, εἰ δὲ μή, νοσοίη· καὶ πόλις ἢ μὴ ἀπόρθητ-
 ος εἶη, εἰ δὲ μή, πόρθοιτο· καὶ φέροι ἢ μή,⁴ ε-
 ὶ δὲ μή, ἄφορος εἶη· καὶ γυναῖκες τίκτοι-
 εν ἐοικότα γονεῦσιν, εἰ δὲ μή, τέρατα· κα-
 45 ἰ βοσκήματα τίκτοι ἐοικότα βοσκήμασ-
 ι, εἰ δὲ μή, τέρατα.

¹ *Études Épigraphiques et Philologiques* (Bibl. de l'École des Hautes Études, Fasc. 272 [Paris, 1938]), pp. 296-316.

² For reference purposes it should be noted that on pp. 307-8 there are two mistakes in Robert's transcription. In line 28 he has unintentionally omitted the main verb *ποήσω*, although he takes cognizance of it in his discussion on pp. 310-11. In line 49 he has *ὀμωμένων* instead of *ὀμωμομένων*.

³ Cf. Aeschines, II, 115.

⁴ Cf. Robert, *op. cit.*, p. 313 and the examples cited there; also the statement on p. 314: "... il fallait écrire, après *πόρθοιτο· καὶ ἢ γῆ καρπὸς φέροι ἢ μή. εἰ δὲ μή, ἄφορος εἶη*.

Robert has nowhere commented upon the triple occurrence of $\tilde{\eta}$ $\mu\eta$ in lines 40, 41, and 42, which words require explanation. An examination of the photograph which accompanies his publication reveals that the letters are certainly HMMH. He has written them as the particle $\tilde{\eta}$ and the dubious factor $\mu\eta$. At first glance one would assume that this form was the regular negative used in an optative clause, but a translation of the oath reveals in this instance a decided incongruity: "And if I abide by those things which are prescribed in the oath, may the city *not* be without plague; if I do not (keep my oath), may it be plagued, etc."

If on the other hand one assumes that Robert understands the form $\mu\eta$ to be a variant of $\mu\eta\nu$, one has difficulty in finding parallels. In strong protestations or oaths $\tilde{\eta}$ $\mu\eta\nu$ is very common⁵ with the meaning of "yea, verily," but it is practically unknown in the form $\tilde{\eta}$ $\mu\eta$. Furthermore, if it is an intensive expression, why does it occur in only the first three, and not also in the last two, parts of the oath to make them all uniform?

We have seen in translating the document that a negative cannot be construed to give the meaning required by the sense of the argumentum. The substitution of $\mu\eta$ for $\mu\eta\nu$ is so unusual that other possibilities should be carefully weighed. Because of its triple occurrence, the chances for a stone-cutter's error are at a minimum, and this possibility should likewise be discarded in favor of any plausible philological explanation.

The most probable substitution for $\tilde{\eta}$ $\mu\eta$ is $\tilde{\eta}\mu\eta$, the form resulting from aphaeresis of the possessive pronoun after the article. With this change the reading would give the proper sense: if I abide by the oath, may my city be free from plague, may my city be preserved from destruction, may my land be fertile, may the women, etc. It was pointed out by Robert that this part of the oath closely resembled in some details the Amphictyonic oath which is quoted in part by Aeschines.⁶ Representatives were chosen from the different cities and sent to the Amphictyonic council. Would it be too great an assumption to suppose that

⁵ Cf. Liddell and Scott, and the *Thesaurus Graecae Linguae*, s. v. $\tilde{\eta}$, $\mu\eta\nu$. See also J. D. Denniston, *The Greek Particles* (Oxford, 1934), pp. 350-1. These works at least do not suggest that the final *nu* was ever dropped in the phrase $\tilde{\eta}$ $\mu\eta\nu$.

⁶ II, 115.

each man subscribed to the oath individually as the representative of his city, and that his oath was considered as binding upon the entire city? If this were the case, he would very logically have said: "And if I abide by those things which are prescribed in the oath, may *my* city be without plague, etc."

Is such a form as ἡ'μῇ warranted by usage? For metrical reasons aphaeresis in general is more peculiar to poetry than to prose. The particular form ἡ'μῇ occurs as such in Sophocles⁷ and in an epigram of the second century B. C.⁸ Examples of crasis in prose between the article and the possessive pronoun or other words beginning with epsilon are available in Meisterhans-Schwyzler,⁹ even if the particular form (nominative singular feminine) does not happen to be represented. The nearest approximation is the crasis of ἡ ἑτέρα to ἡτέρα, both forms existing side by side in the epigraphical language of the middle of the fourth century B. C. This is the period to which Robert assigns this inscription.

Meisterhans-Schwyzler conclude with the generalization that the less official the document, the more common is crasis. It is rarely found in official decrees, but it occurs more frequently in honorary inscriptions. It should be pointed out that this is not an official decree, but one which was erected at his own behest by Dion, son of Dion, an Acharnian and priest of Ares and Athena Areia. In all probability the language and system of orthography employed by this country priest might have differed somewhat from the language of official decrees and the careful work of an official engraver under supervision. In line 8 στοιχήσω is given for στοιχίσω, and in line 9 ὄκ, for οὐκ. The optative verb in line 50¹⁰ terminates in ην instead of εν, where the sense obviously requires the third person plural rather than

⁷ *Oed. Rex*, 1463; *Electra*, 97. ἡ'μῇ is given in Bailly, *Dictionnaire Grec-Français*, but not in either the old or new edition of Liddell and Scott. Practically all of the editors of Sophocles keep the manuscript reading, although in *Oed. Rex*, 1463 Schneidewin, Neue, and Wunder have made other conjectures.

⁸ U. Wilcken, *Griechische Ostraka*, II (Leipzig, 1899), no. 1148, line 7; cf. Ed. Mayser, *Grammatik der Griechischen Papyri*, I (Berlin, 1923), on aphaeresis, pp. 143-5; on crasis, pp. 158-60.

⁹ *Grammatik der Attischen Inschriften*, 3rd ed. (1900), pp. 70-3.

¹⁰ In giving the reading of the stone for this word on page 308, Robert erroneously assigns it to line 51, instead of line 50.

the first person singular. This latter, however, is a stone-cutter's error as is the omission of ἡ γῆ καρπούς in line 42.

These other peculiarities would lend credence to the theory that such a form as ἡμῇ did exist in the spoken language of the time, and that it is to be read in lines 40, 41, and 42, in preference to ἡ μῇ. Is it not mere chance, after all, that we have preserved for us in literature many instances of crasis between the article and the possessive pronoun in other genders and cases, while aphaeresis between the feminine singular article and the corresponding possessive pronoun is exceedingly rare?

In conclusion the altered text of the inscription is presented:

- Καὶ εἰ μὲν ἐμπεδορκοίην τὰ ἐν τῷ ὁ-
 40 ρκωι γεγραμμένα, ἡ πόλις ἡμῇ ἄνοσος εἶ-
 η, εἰ δὲ μῇ, νοσοίη· Καὶ πόλις ἡμῇ ἀπόρθη-
 ος εἶη, εἰ δὲ μῇ, πόρθοιτο· καὶ <καρπούς> φέροι <γῆ> ἡμῇ, ε-
 ἰ δὲ μῇ, ἄφορος εἶη· καὶ γυναῖκες τίκτοι-
 εν ἐοικότα γονεῦσιν, εἰ δὲ μῇ, τέρατα· κα
 45 ἰ βοσκήματα τίκτοι ἐοικότα βοσκήμασ-
 ι, εἰ δὲ μῇ, τέρατα.

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SUBLIMITER.

The significance of *sublimiter*, a word used only by Cato, *Agr.*, 70, 71, has not yet been determined; it is here suggested that the clue to the meaning is to be found in evidence discovered by the study of the history of religion. Cato, in speaking of the treatment of a sick cow (*loc. cit.*), advises the owner to collect salt, leaves of laurel, grains of incense, leeks, and beans and then says (70): *haec omnia sublimiter legi, teri darique oportet; ieiunus siet qui dabit* and (71): *sublimiter terat et vaso ligneo det, bosque ipsus et qui dabit sublimiter stet, ieiunus ieiuno bovi dato*.

The common interpretation is that cow and owner are to stand upright.¹ On the other hand, T. Birt supposes² that the remedy is to be collected and infused on a high mountain, not below in the valley where men live and work: "Je höher, je einsamer und unbeobachteter geschieht die Handlung." His point of departure is the usual significance of *sublimis(-us)*: "high in the air, between heaven and earth" (cf. Haffter, *Glotta*, XXIII, p. 252). Neither opinion is acceptable, however. As to the first, while it is conceivable that owner and cow should be required to stand upright while the mixture is being administered, there is no conceivable reason why one should stand upright while collecting and grinding the ingredients;³ and, besides, those who hold this opinion, have to maintain an unusual meaning for the word *sublimis* to begin with (cf. Haffter, *loc. cit.*). For the second interpretation, it is highly improbable that the Roman living in the plain of the Campagna should have been advised to take his sick cow up a distant mountain there to collect, prepare, and administer the remedy.

The clue to the correct interpretation is to be found, I believe, in A. D. Nock's essay on the relief of the basilica discovered

¹ Forcellini, s. v. "sublimiter": hoc est celso et erecto corpore; K. Meister, *Die Hausschwelle* (*Sitzungsb. der Heidelberger Akad. der Wiss.*, 1924-25, *Abh.* 3), pp. 33 f.; Jacobsohn, *Glotta*, XVI, p. 59 (at the suggestion of Lommatzsch).

² *Rheinisches Museum*, LXXVII (1928), pp. 210 f.

³ This point was seen by Jacobsohn, *loc. cit.*

in 1917 near the Porta Maggiore in Rome.⁴ The relief represents Jason in the act of securing the fleece with Medea's assistance. Medea is shown to the left of the tree on which the fleece is suspended and about which is the guardian serpent. To the right, Jason kneels on a table to secure the fleece. Under this table is a smaller table or stool on which rests an oblong object, "probably Medea's casket of magical herbs." Nock suggests that the explanation of the relief "may well be sought in magical ideas," and he believes that Jason is the subordinate figure, Medea playing the chief part. "If we turn to the *Demotic Magical Papyrus* translated by Drs. Griffith and Thompson, we read in the account of divination performed with a child as assistant (col. III. 5, p. 33): 'You take seven new bricks, before they have been moved so as to turn them to the other face; you take them, you being pure, without touching them against anything on earth. . . . You arrange them about the child, without touching any part of him on the ground,' and in later passages again the young medium and objects used are set on bricks, as also in the Paris Greek magical papyrus l. 911. Clearly there is in magic a kind of insulation: occult power can be lost by contact with earth, as, for instance, herbs may lose their freshness and the vigour of their hidden force (cf. Eitrem, *Pap. Osl.*, i, 93, 114 f., and for abundant illustrations of 'insulation' J. G. Frazer, *Golden Bough*³, x, 2 f., iii, 110, 180, 241, xi, 51 . . .)." Nock points out that this belief exists in spite of the opposite one that magical rites are aided by contact with the earth: since earth is a storehouse of *δύναμις*, as it is powerful to aid it is not without danger;⁵ and he suggests that Jason as the assistant in a magical act "is, in accordance with a widespread superstition insulated from earth by this table." Kroll (*Glotta*, XXV, pp. 157f.) has, it is true, doubted this interpretation and has supposed that the table is the artist's infelicitous substitute for the mound on which Jason customarily

⁴ *J. H. S.*, XLVI (1926), pp. 48-50, cf. fig. 1, p. 49.

⁵ Cf. Heckenbach, *Religionsgeschichtliche Versuche und Vorarbeiten*, IX, 3, pp. 44 f.; R. R. Marett, *The Threshold of Religion*³, pp. 73 ff. To these titles given by Nock add E. Goldmann, "Cartam levare," *Mitt. des Inst. für oest. Geschichtsforschung*, XXXV (1914), pp. 31-59; E. Fehrle, "Erde" in *Handwörterbuch des deutschen Aberglaubens*, II, pp. 895 f.

kneels in sarcophagous reliefs; but this is improbable not only because it presumes that the artist bungled but also because a table is in itself an object of magical power according to primitive thought⁶ and specifically an object suitable for averting the magical power of earth.⁷

Nock's interpretation of the relief, then, would indicate the meaning of *sublimis* in the magical prescription given by Cato. The procedure would take place on a layer of stones or bricks or on a wooden stand,⁸ so that owner and cow were standing between heaven and earth,—the usual significance of the word *sublimis*. That the prescription is in fact of a magical character is proved by the requisite, "ieiunus ieiuno;" an empty stomach often is the *conditio sine qua non* for success in magical ritual.⁹ It is further proved by the fact that the ingredients used in the remedy are articles of the druggist's shop, used from the remotest times by sorcerers.

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⁶ Cf. Haberlandt, "Tisch" in *Handwörterbuch des deutschen Aberglaubens*; E. Goldmann, *Die Einführung der deutschen Herzogsgeschlechter Kärntens in den slovenischen Stammesverband*, 1903, pp. 70 f.

⁷ Cf. an example of this power in Haberlandt, *op. cit.*, p. 965.

⁸ Cf. the wooden stand used against the power of gypsies, H. Lewy, *Archiv für Religionswissenschaft*, XXX (1933), p. 207; for kettles used in similar situations, cf. Fehrle, *op. cit.*, p. 904.

⁹ Cf. Zepf, *Handwörterbuch des deutschen Aberglaubens*, s. v. "nüchtern," who quotes Horace, *Ep.*, V, 23; Varro, *de Re Rust.*, I, 2, 27; Pliny, *Hist. Nat.*, XXVI, 60, XXIV, 118 and 63, XXVI, 58, XXVIII, 22, XXX, 23.

LUCRETII V, 1442.

tum mare velivolis florebat †propter odores†.

Professor Tenney Frank has recently (*A. J. P.*, LIX [1938], pp. 225-6) discussed afresh the reading *propter odores* preserved in the above line by O and Q. His argument is as follows. Lucretius used some such word as *pinibus*, rather than *navibus* or *puppibus* which various modern editors have accepted, as the noun with which *velivolis* agrees, and the original line may have been *tum mare velivolis florebat pinibus atque*, or perhaps *fl. pinibu' tumque*. This use of *pinibus* later caused some glossator "to explain the figure contained in *florebat* as one suggesting agreeable odors rather than the more usual pictorial one," and his gloss *propter odores* subsequently displaced the last two words of the line.

While accepting as a gloss the last two words now preserved by O and Q, I have always suspected that the gloss itself has become slightly corrupt in transmission, and that what the glossator originally wrote was simply *propter colores* as a comment on *florebat*. This was misread as *propter odores*, which happened to scan (unlike *propter tria promuntoria*, the gloss on *triquetris* preserved by O at I, 717, which Prof. Frank quotes as a harmless parallel) and was later fitted on without difficulty to the end of the line. Knowledge of the similar but far-distant ending of II, 417 referred to by most editors (where however *propter* is adverbial) may or may not have contributed to this process. But the theory¹ that *propter odores* was actually transferred thence (*miro errore translata*, Diels *ad loc.*) now becomes unnecessary even if defensible. The somewhat unusual course of emending a generally accepted gloss seems to me essential in order to clear the way for establishment of the text. Acceptance of *propter colores* absolves us from the necessity of attributing to the glossator a comment which is extremely difficult to explain ("inexplicable . . . une glose absurde de *florebat*," Ernout-Robin) unless we are prepared to believe (to quote one example of this view) that the glossator *fortasse naves turibus et unguentis*

¹ Defended by A. E. Housman in *Journ. of Phil.*, XXV (1897), pp. 243-4.

*oneratas comparavit cum floribus in prato suavem odorem exhalantibus.*² Such an explanation is to my mind fantastic and improbable; and *propter odores* is equally unnatural and mistaken (as Prof. Frank admits)³ even if we accept the suggestion of a reading such as *pinibus* in place of *navibus*. The gloss *propter colores*, on the other hand, is a natural, if at first sight somewhat naïve, comment on *florebat* and the picture of the sea becoming "gay with the flying sails of ships" (Bailey), an image sufficiently striking for Servius to recall it in commenting on Virg., *Aen.*, VII, 804 (*florentes aere catervas*) where he remarks *Ennius et Lucretius florere dicunt omne quod nitidum est. Lucretius florebat navibus pontus*. Whether the last three words are actually a quotation or not, the main point is the use of *florere*, and this is entirely apt. *florere* does signify brightness, especially of flashing colours, and Cato (*ap. Charis.*, II, p. 185; Keil, *Gramm. Lat.*, I, p. 207) used the phrase *mare velis florere*⁴ with exactly the Lucretian picture in mind, though Lucretius improves on it by following Ennius' use of *velivolus* to describe the ships (*Ann.*, 387, *Sc.*, 79 Vahl.⁵; cf. *Sc.*, 65 *velivolantibus navibus*). Lucretius seems to have been peculiarly sensitive to this kind of picture—cf. his *daedala tellus summittit flores* (I, 7, 8) and the description of shells on a sandy beach (II, 374-5 *concharum genus . . . videmus / pingere telluris gremium*)—and we may recall that in II, 777, in another connexion, he has described the sea itself as normally (i. e., in stormless weather, when sailing would be possible) lacking variety in colour, so that the patches of colour provided by the sails and hulls would be highly attractive to his eye.

But *florere* in this context seems to me to have a fuller meaning. Lucretius has completed his account of man's progress on land, and man next turns his attention to the other element, the sea, which now also blossoms forth, a "crop" different indeed but no less colourful than the scenes pictured on land in 1370 ff. (see especially 1373-4, 1376-8). The juxtaposition of *celebatur tellus* in 1441 (in two lines which briefly sum up the story

² Brackman, *Mnem.*, XLVIII (1920), p. 259.

³ Lucretius does not use *florere* of "scent" or "bouquet," though *flos* itself bears this meaning (*fl. nardi* II, 848; *fl. Bacchi* III, 221).

⁴ *inde omnem classem ventus auster lenis fert: mare velis florere videres.*

of the growth of cities and of the art of cultivation on land which was divided up as communities grew) and *tum mare florebat* in 1442 seems too striking to be accidental,⁵ and the glossator, if he wrote *propter colores* as I suggest, was not so naïve as at first appears.

Further, I am inclined to think that these considerations may give us the clue to restoration of the end of the verse. In 1442-5 men extend their activities and pass beyond the former limits; they now embark upon the sea which has hitherto separated land from land, and thus establish new connexions by the new method of communication, an advance which, Lucretius says, had already led to treaties and alliances when poets first sang of man's story. In such a context the sea is regarded from a point of view which is typical of Lucretius and indeed of Latin poetry in general. *mare quod late terrarum distinet oras* (V, 203) is Lucretius' description of it: it is essentially *dissociabile*, a barrier between man and man, between land and land, and he has no illusions about the fate likely to come to those attempting to surmount this barrier (II, 552 ff.). To the sea as viewed in this way from the comparative safety of land Lucretius regularly applies the stock epithet *magnum*: cf. the familiar opening of Book II and the description even of the Hellespont as *magnum* when he refers to Xerxes' daring crossing (III, 1029).⁶ I consider therefore that 1442 should be completed thus:

tum mare velivolis florebat navibu' magnum:

For the elision of final *s* before *magnus* cf. I, 412 (*e fontibu' magnis*); elsewhere before *m* I, 591, II, 830. The removal of *propter odores* leaves us without restriction in restoring the verse-ending, since the gloss can no longer suggest that "the text current about the fifth century did not contain such words as *navibus* or *puppibus*" (Frank, *loc. cit.*), and the numerous suggestions based merely on resemblance to *propter odores* can be excluded. *navibus* is well attested by the Ennian examples

⁵ Cf. the frequent use of *arare, sulcare* (*mare, aequor*)—"to plough the sea."

⁶ Cf. the verse epitaph from Brundisium (*C. I. L.*, IX, 60, ll. 2-3):

*navibus velivolis magnum mare saepe cucurri,
accessi terras complures . . .*

(quoted by Merrill, *C. R.*, XVI [1902], p. 169, in support of the retention of *navibus*).

and by its appearance in Servius, nor have we any instance of *velivolus* as a substantive. Some editors have regarded Servius' *pontus* as an actual quotation, and Housman therefore suggested ' *tum mari' velivolis florebat navibu' pontus*, supporting this by reference to Virg., *Aen.*, X, 377 and Prop., III, 5, 11. But in both of these the interpretation is doubtful, and comparison with Homer's *πόντος ἁλός* is slight cause for assuming Servius' accuracy on this occasion in spite of his frequent misquotations and for introducing an elided final *s* in a rare position⁸ for which there is only one parallel in the poem, at I, 978. More recently Martin (ed. Teubner 1933) has printed *t. mare v. fl. navibu' ponti*, an unconvincing attempt⁹ to combine Servius and the MSS which is not favoured by his comparison of II, 772 and 781, since in both these passages *aequor(a) ponti* is not merely pleonastic but has essential reference to the smooth surface of the sea (cf. I, 8 *tibi rident aequora ponti* and the phrases *aequor saxi* III, 892, *a. speculorum* IV, 107, etc.). *pontus* in fact is difficult to defend. Nor can Diels' *tumque* (supported as an alternative by Prof. Frank) be right. *tumque* never occurs in the poem, nor does Lucretius ever allow *tum* to stand in the sixth foot of the line unless it is put there for very special temporal emphasis, which only happens four, or perhaps five, times in 107 uses of the word.¹⁰ As a mere connective particle it has no claim whatever to this position. On the whole it seems preferable to complete 1442 as a unit rather than by a word which introduces 1443, and *mare . . . magnum*, far from being out of place as Merrill alleged,¹¹ seems to be a familiar Lucretian usage which gives precisely the sense required, while the emphasis which the Lucretian adjective derives by being placed at the end of the line at some distance from its noun is quite in keeping with the context.

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⁷ *Loc. cit.*

⁸ Cf. *C. Q.*, XII (1918), p. 106.

⁹ " . . . un deciso peggioramento della proposta dello Housman . . . fondata precisamente su Serv. *Aen.* VII. 804 " (L. Castiglioni, *Gnomon*, XIII, [1937], p. 563).

¹⁰ III, 840, IV, 957, VI, 402, 1063. I am not convinced of the genuineness of the text in VI, 288.

¹¹ *C. R.*, XVI (1902), p. 169.

THE GENS PORCIA AND MONTE PORZIO CATONE.

In June, 1931, I saw in the Cantina Bonasera, Via Mentana, Frascati, an altar of white marble, badly stained, bearing an inscription that has remained hitherto unpublished. The cippus measured 0.82 m. x 0.33 m. x 0.25 m., the inscribed space being 0.24 m. x 0.43 m. The letters, 0.039 m. high, were of good quality and should probably be dated in the latter part of the first century A. D.

	N e P T V N O	
	R E D V C I	
<i>urceus</i>	L · PORCIVS	<i>patera</i>
	SEVERINVS	
	V · S · L · M	

The letters were all undamaged except the second and the text presents no difficulties of interpretation: *N[e]ptuno Reduci L. Porcius Severinus v(otum) s(olvit) l(ibens) m(erito)*. While the epithet *Redux* is not applied to Neptune in any inscription which I have found,¹ I may cite its use with the name of Fortuna in an inscription from Cumae,² in which the name is given in both the genitive and dative. L. Porcius Severinus evidently made a vow to Neptune while on a voyage and erected this altar as a fulfillment of his vow. We may cite a parallel inscription: *Neptuno sacrum* [several words lost including name of dedicant] *votum in Siculo fretu* [sic] *susceptum solvit*.³ It is unfortunate

¹ No mention of Neptunus Redux appears in G. Wissowa, *Religion und Kultus der Römer*² (Munich, 1912), pp. 225-229; Roscher's *Lexicon s. v.* "Neptunus"; or S. Weinstock, *R.-E.*, s. v. "Neptunus." I have been able to find none in the indices to *C. I. L.*, IX, X, or XIV.

² *C. I. L.*, X, 8375 (bis), possibly also in an inscription from Praeneste (*C. I. L.*, XIV, 2903) where the reading is as follows: *Veneri [et] Fortun[ae] Genetrici R[educi?]*, etc.

³ *C. I. L.*, 3813 = 3585. Other altars dedicated to Neptune were erected in fulfillment of vows: *C. I. L.*, IX, 4675 (Reate); X, 8157; XIV, 3558 (Tibur). In the last the dedication is to Neptunus Adiutor. In this and IX, 4675, the word *Sacrum* is inserted between the name of the divinity and the dedicant. From Tibur comes another altar dedicated to Jupiter Custos by the same dedicant as the other Tiburtine titulus (*C. I. L.*, XIV, 3557).

that L. Porcius Severinus did not include the place where he made the vow.

The altar is also of significance in that it is the first Tusculan inscription to be discovered which mentions the name of any member of the *gens Porcia*.⁴ That no others have been found is, indeed, surprising, since we know that Cato the censor was born at Tusculum.⁵ While epigraphical remains dating from his lifetime are scarce, we should certainly have expected some mention of the *gens* in inscriptions from the time of Cato Uticensis, since, as Grossi-Gondi maintains,⁶ there is some likelihood that he had a Tusculan villa. Only seven other inscriptions naming members of the *gens* have been included in *C. I. L.* XIV (Latium outside of Rome): 1294 (Ostia); 1565 (*ibid.*); 2366 (*Ager Albanus*); 2611 (Tibur); 3906 (Lunghezza); 3922 (Monticelli between Tibur and Nomentum); and 4010 (Ficulea). This is a small harvest indeed, but we should not forget that, though Cicero himself was probably the most prominent resident of Tusculum in antiquity, there has never been found a single scrap of epigraphical evidence that would permit identification of his famous villa.⁷ It is therefore interesting to be able to show on the basis of this altar that a member of the *gens Porcia* actually did own property in the *ager Tusculanus* as late as the first century A. D., however remotely connected with M. Porcius Cato our L. Porcius Severinus might be. To maintain, however, that the site of the discovery was the homestead of

⁴ I agree with Dessau that *C. I. L.*, XIV, 214-215* should be rejected as false. It was first printed by D. B. Mattei, *Memorie Istoriche dell' antico Tuscolo oggi Frascati* (Rome, 1711), p. 132, and copied from him by Muratori, Volpi, and Marocco. Mattei's testimony is so suspect that unless his statements can be confirmed by trustworthy sources, they must be rejected. Moreover, the stone, if genuine, should be included with those found in Rome (*C. I. L.*, VI, 3428*).

⁵ Cicero, *De Rep.*, I, 1; *Schol. Bobiens. Pro P. Sylla*, 23, and *Pro Plancio*, 19; Nepos, *Cato*, 1; perhaps also A. Gellius, XIII, 24.

⁶ F. Grossi-Gondi, *Il Tuscolano nell'Età Classica* (Rome, 1908), pp. 185-187. We can hardly follow him in his assertion that the younger Cato's villa was that at le Cappellette near Frascati.

⁷ The brickstamp (*C. I. L.*, XV, 2277: M·TVLI) is no evidence for Cicero's ownership of the site where it was found. See p. 272 of my article, "Cicero's Tusculan Villa," *Classical Journal*, XXX (1935), pp. 261-277.

Porcii Catones would, of course, be pressing the evidence too far, but it is clear that the *gens* was not extinct at Tusculum when Cato Uticensis died.

The altar was found, according to my informant, at Grotte di Colle Pisano, the name given to a locality north of Frascati, between Prata Porci on the west and Fontana Candida on the east.⁸ The site lies a short distance north of the line of the older Rome-Naples railroad, and the discovery was made, I believe, in the course of some partial excavations of an ancient villa which were carried on, apparently by the owner of the land, in the year 1928. In my opinion, the altar gives us the name of one of the ancient owners of this villa,⁹ which was of moderate size but was well supplied with water from two, or possibly four, reservoirs which lie to the south and to the east.

The presence in this region of a villa belonging to a Porcius seems to me strong confirmation of the view that Prata Porci, a crater lying to the northwest of Colle Pisano, is really a reminiscence of the same name. On the southeast rim of Prata Porci lies the modern farmhouse, Casa Bruni (già Boldetti), which occupied the site of an ancient villa. According to Winckelmann,¹⁰ some inscriptions belonging to the *gens* were actually found here, but they have not been included in the *C. I. L.*, XIV or otherwise published, so far as I know. Ashby was therefore inclined to doubt whether the attribution was correct,¹¹ but since the discovery of the altar, I believe his skepticism unnecessary. One could wish, however, that Winckelmann had given the text of the inscriptions.

⁸ For these localities see the maps appended to Grossi-Gondi, *op. cit.*, and to T. Ashby, "The Classical Topography of the Roman Campagna," *Papers of the British School at Rome*, I (1902), map v, and IV (1907), map ii; and also the large map of the *ager Tusculanus* in my book, *A History of Ancient Tusculum*, Washington, American Documentation Institute (1939), fig. 47. All of these maps are based on the topographical maps of the *Istituto Geografico Militare*.

⁹ What was to be seen before 1910 is described by Ashby, *op. cit.*, V (1910), p. 324. The later excavations are described as villa 13 in my book mentioned above.

¹⁰ J. J. Winckelmann, *Werke* (Donauöschingen, 1825), II, p. 97; V, p. 199; VIII, p. 307 = Carlo Fea's translation as *Storia dell'Arte* (Rome, 1784), III, p. 253 = Fea, *Miscellanea Filologica e Antiquaria* (Rome, 1790), I, p. 184.

¹¹ *Loc. cit.*, pp. 323 f.

Furthermore, the stone also confirms a similar belief in regard to the name of the village, Monte Porzio Catone, which lies on an isolated peak northeast of Frascati, 451 m. above sea level, about two and one-half kilometers southeast of Grotte di Colle Pisano. It is possible that the first occurrence of the name is to be found in the Register of Gregory II (715-731), but the reading of the manuscript is uncertain.¹² We can, however, be sure that the name was applied to the hill as early as the middle of the eleventh century when Gregory, Count of Tusculum and Roman Consul, offered to the monastery of Monte Cassino the *ecclesiam sancti Antonini in Monte Porculo*.¹³ The Catone part of the name was added in 1872 to distinguish the town from another of the same name in the Marches,¹⁴ and to satisfy the desire of the local antiquarians to connect the name with the *gens Porcia*. That the resemblance, though striking, was of any significance was denied by Gregorovius¹⁵ who believed that Porzio comes from the root meaning swine, and more recently the same view has been held by Bagnani.¹⁶ On the other hand, we are now provided with definite evidence favoring the derivation from the name of the *gens*.

The site of Monte Porzio Catone seems eminently suited for an ancient village, since it could be easily fortified and defended, but we know of no ancient town which could have been here. No ancient ruins belonging either to a town or a villa have ever been found on the hill *in situ*, though careful search has been made by several topographers. The modern pavements and buildings are not so extensive that they can be thought to hide completely any ancient remains, as do the edifices of modern Frascati, almost completely concealing from view extensive re-

¹² G. Tomassetti, *La Via Latina nel Medio Evo* (Rome, 1886), p. 261, reprinted from the *Archivio della R. Società Patria*, VIII (1885), pp. 1-59, 399-509; IX (1886), pp. 40-128, 372-432.

¹³ *Chronicon Casinense*, cited by Tomassetti, *loc. cit.* The anonymous note in the *Enciclopedia Italiana*, XXIII, pp. 750 f., dates this event in 1078.

¹⁴ *Guida del Touring Club Italiano* (Milan, 1924), *Italia Centrale*: I, p. 339, map p. 128.

¹⁵ F. Gregorovius, *History of the City of Rome in the Middle Ages*, tr. by Annie Hamilton (London, 1905), IV, p. 8.

¹⁶ G. Bagnani, *The Roman Campagna and its Treasures* (London, 1929), p. 127.

mains of the ancient imperial villa of Nero, Vespasian, and Domitian. What antiquities have been seen on the hill were all of a type easily transported from other sites.¹⁷

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NOTE ON ARISTOPHANES.

The owl and the *χύτρα*.

In the *Birds* Peisthetairos and Euelpides are about to be attacked by the chorus which furnishes the title of the comedy:

Πει. πῶς γὰρ ἂν τούτους δοκεῖς
ἐκφυγεῖν; Εὐ. οὐκ οἶδ' ὅπως ἄν. Πει. ἀλλ' ἐγὼ τοί σοι λέγω
ὅτι μένοντε δεῖ μάχεσθαι λαμβάνειν τε τῶν χυτῶν.
Εὐ. τί δὲ χύτρα νῶ γ' ὠφελήσει; Πει. γλαῦξ μὲν οὐ πρόσεισι νῶν
(355-358).

Χο. ἔλκε τίλλε παῖε δέιρε, κόπτε πρῶτην τὴν χύτραν (365).

The relationship between owl and *χύτρα* is one of the much disputed minor points in Aristophanes. I have no intention of parading the many tentative suggestions of Aristophanic scholars, but Rogers says (*ad loc.*): "Why should the owl, in particular, be kept at bay by the *χύτρα*? This is a question which cannot be answered with confidence: but perhaps the most probable explanation is that of Dobree, that the pot contained lighted fire which the bird of night would shun."

I. G., I², 4, ll. 4-5 contain general provisions for the Hecatompedon. The sense of this passage has been certainly restored:

. : ἡοι ἔ[νδο]ν ἡιε[ρ]οργόντ
[εἰ : μὲ ἔαν : ἡιστ]άναι [:] χύτραν :

We know, then, that Athena's temple considered the *χύτρα* distasteful. May not the humor of this passage in the *Birds* lie in Aristophanes' attribution to Athena's bird of the dislike for the *χύτρα* felt at Athena's temple? From l. 365 it would appear that the *χύτρα* was more scorned than feared.

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¹⁷ Tomassetti, *op. cit.*, p. 260.

NOTE ON ARISTOTLE, 'ΑΘ. ΠΟΛ., 54.

In his book *Les Secrétaires Athéniens*, Brillant has shown (pp. 97-108) that the secretary whom Aristotle calls ἐπὶ τοὺς νόμους and who sat with the Council ('ΑΘ. ΠΟΛ., 54, 4) held the same office as the secretary known from epigraphical sources as ἐπὶ τὰ ψηφίσματα.¹ The inscriptions known to Brillant which named the secretary ἐπὶ τὰ ψηφίσματα were I.G., II², 223 (343/2) and I.G., II², 1700 (335/4); to these may now be added the document published by Dow as *Hesperia*, Suppl. I, no. 1 (327/6).²

Inasmuch as the official title seems to have been changed from ἐπὶ τὰ ψηφίσματα, employed down through 327/6, to ἐπὶ τοὺς νόμους, presumably in use when Aristotle composed this portion of the 'Αθηναίων Πολιτεία, the awkward confusion of assuming now one designation and now the other may be avoided by claiming for the composition of 'ΑΘ. ΠΟΛ., 54 a date in 326/5 or later.

This view is in part confirmed by the discovery of a new fragment in the Athenian Agora (to be published soon in *Hesperia*) which names the secretary ἐπὶ τοὺς νό[μους] in 324/3.

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AN EMENDED ORACLE.

Choeroboscus, Scholia to the *Canones* of Theodosius of Alexandria (ed. Helgard, Lipsiae, 1889, vol. I, p. 163):

τὸ γὰρ κύριον ὄνομα τὸ Πέρσης εἰς Ἡ ἔχει τὴν κλητικὴν, οἷον ὦ Πέρση, ὡς παρ' Ἡσιόδῳ [*Opp.*, 27]:

ὦ Πέρση, σὺ δὲ ταῦτα τεῶ ἐνικάτθεο θυμῷ.

σημειούμεθα παρ' Ἡρακλείδῃ ἐν τοῖς Περὶ χρησμῶν ὅτι περ καὶ λέγουσιν τινες πεπλανημένον εἶναι τὸ

ὦ Πέρση ποικιλόδιφρε ἰδὼν ἀπὸ χεῖρας ἔχεσθαι.

ἔστι γὰρ ἐν ταῦθα ἐθνικόν.

¹ Ferguson, *Athenian Tribal Cycles*, p. 160, note 1, now accepts the identity of office, and defends Brillant's general thesis against divergent views of Kirchner and Dinsmoor.

² Feyel's objection to the date as given by Dow is not serious. Cf. *Rev. Ét. Anc.*, XL (1938), p. 333.

Evidently Heraclides Ponticus, who wrote a work on oracles in the latter half of the 4th century B. C., quoted these words as an oracular response (cf. Müller, *F. H. G.*, II, pp. 197-198, where this fragment is not noticed). Also, though corrupt in our manuscripts, it clearly should be restored as a single hexameter, which will have had its prototype in such a line as *Od.*, XXII, 316, ending *κακῶν ἀπο χεῖρας ἔχεσθαι*. The noun needed in front of *ἀπό* is represented in our manuscripts by *ιδῶν*, *ἰνδ'* or *ἰν*; none of these readings scans or makes sense. G. Wolff (*Porphyrii de Philosophia ex oraculis haurienda*, p. 46, note 2) proposed to read *νεῶν ἀπο*; Lenz (*Herodiani Reliquiae*, 1868, vol. II, p. 690) offered either *τῶνδ' ἀπο* or *θεῶν δ' ἀπο*. But these emendations do not make very good sense, and the scholars who proposed them did not explain their application. We may take it that we have in this prophecy a warning to a Persian to "keep his hands off" something. It was evidently in that sense that Heraclides understood *Πέρση*. If we imagine a likely circumstance for an oracle to utter such a warning, we think of 480 B. C. and Xerxes. I suggest that the proper reading is:

Πέρση ποικιλόδιφρ', ἱερῶν ἀπο χεῖρας ἔχεσθαι.

"Persian of the richly ornamented chariot (or chair),
keep your hands off temples (or sacred things)."

The reading *ἱερῶν* will scan, and seems a possible source of our present variant readings. The *ω* at the beginning of the line should be omitted, with Wolff. It has been introduced by a copyist on the model of the preceding quotation from Hesiod. I take it that this line is the beginning of a longer prophecy, such as that referred to in Herodotus, IX, xlii-xliii, 1 where Mardonius alludes to an oracle threatening the Persians with destruction, if they sacked Delphi. The penalty for disobedience would be stated in the missing lines, and the whole would have been produced as propaganda to protect Delphi from Persian raiders in 480 B. C.

In addition, one may note that Pollux (VII, 112) describes the phrase *Θετταλὲ ποικιλόδιφρε* as Pythian (cf. also Athen., XIII, 568 d). I take the reference in Heraclides to mean that some contemporaries of his said that the version which he quoted was "erroneous" (*πεπλανημένον*) because of the form *Πέρση* as vocative. I suggest that by the end of the fourth century B. C.

this threatening oracle existed in two versions: one beginning Πέρση ποικιλόδιφρ' the other Θεταλὲ ποικιλόδιφρ'. The second version, I conjecture, had been produced in 370 B. C. as a warning to Jason of Pherae, when it was still expected that he would insist on presiding at the Pythian games of that year.

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A NOTE ON ISIDORE.

Isidore (*Etym.*, 17, 1, 3) says of the god Stercutus: *hic plura instrumenta agriculturæ repperit, primusque agros firmavit*. At least, this is the reading of Lindsay's edition (1911), with no variant indicated. The *Thesaurus Linguae Latinae*, s. v. *firmo* (col. 810, 35-36), quoting this passage explains "*sc. sterco-rando*," but furnishes no parallel to this use of *firmavit*. In 17, 2, 3, where Isidore further develops the subject, he says of *stercus*: *idem et fimus est, qui per agros iacitur*, and this allusion to *fimus* suggests that in 17, 1, 3 we should read *fimavit*. I discovered, however, to my surprise, that this verb is not found in the *Thesaurus*, though cited for later Latin by Du Cange. To see whether it had been suggested for Isidore I examined the editions readily accessible to me, finding *firmavit* in the following: Zainer (1472), Mentelin (ca. 1473?), Winters (ca. 1478?), [Scotus] (ca. 1485?), Locatelli (1493), Petit (1520), du Breul (1617), and Otto (1833). In the edition of Grial (1599), however, that of Arevalus (1801) descended from it, and the reprint of Arevalus in Migne's *Patrologia Latina*, LXXXII (1850), there appears, in each case without indication of any variant, *fimavit*.

The facsimile of Cod. Toletanus (nunc Matritensis) 15, 8 of the late eighth century, published in *Cod. Gr. et Lat.*, XIII (1909), on f. 139^r, col. 1, shows *firmavit*, but for the examination of other Isidore MSS I have had no opportunity. I suggest, however, that whether *fimavit* rests on other codices or only on an emendation by Grial (or some predecessor) its correctness is so obvious that the word should be restored to the text of Isidore and the verb *fimo* given a place in our lexica.

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REVIEWS.

The Cambridge Ancient History. Volume XII. The Imperial Crisis and Recovery. A.D. 193-324. Edited by S. A. COOK, F. E. ADCOCK, M. P. CHARLESWORTH and N. H. BAYNES. Pp. xxvii + 849: 10 maps, 1 sheet of plans, 2 sheets of chronological tables. £1-15-0. Volume of Plates V. Prepared by C. T. SELTMAN. Pp. xv + 243. 15s. Cambridge, at the University Press; New York, Macmillan Company, 1939.

The task of writing this notice is sad; for it is a duty laid upon the reviewer by the scholar whose too early death has brought the *Journal* which he edited and the University which he adorned the sympathy of all who care for the study of ancient Rome. And sorrow at the loss of Professor Frank is felt by none more keenly than by those of his colleagues whose work lies in Oxford. Not only did he honour Oxford by his presence during his last six months of life, but, though already ailing, he spent himself in the service of its students. His sojourn here will long be gratefully remembered, and not least because in its brief period Oxford came to admire his sterling humanity as much as it had long respected the distinction of his learning.

It is with reluctance, and only after much thought, that I refrain from acting on a suggestion which he made in giving me the opportunity to write these lines—the suggestion that in dealing with these volumes it might be appropriate to say something of matters which lie outside their scope. Their publication completes not only the *Ancient History* but the whole series inaugurated by the Cambridge Press more than forty years ago to tell the tale of our civilization from the earliest times to our own; and that series, revealing as it does successive influences from Ranke's to that of Stefan George, undoubtedly invites reflexion. However soon the contents of the Cambridge Histories may be outmoded by the advance of knowledge or by changes in the direction from which history is approached, these works, as even a contributor may say without apology, will at least retain their value for the student of historiography as mirrors of the varied conceptions of history held during a period in which the nature and function of historical thought were being long and deeply pondered not merely by philosophers but by historians themselves. But Volume XII by itself calls for so much more by way of comment than can be forced into the limits of a review that justice to the editors and their contributors entitles them to all

the space a reviewer can demand; and, even so, much will have to be left unsaid. Nevertheless, perhaps one remark about the *Ancient History* as a whole may be forgiven. Bury's extension of the foundations laid by Acton has proved as solid as the original work, and on it the editors have raised an edifice worthy of those who sketched the earliest plans. But in building they have improved the details. One who in reviewing the first volume mixed criticism with his applause must take leave in reviewing the last to proclaim the gratitude which is widespread for the skill with which early defects have been mitigated or removed. It has been discovered that a text intelligible to the general reader can be combined with notes which give it value for the scholar; and the editors, becoming more assertive with experience, have contrived to impose on the contributors to later volumes a harmony, not indeed in their opinions on points of detail but at least in their conception of the nature of their undertaking, which once was conspicuously to seek.

In co-operative works occasional discords are inevitable, but it must be said that in their final effort the editors' technique has reached a high degree of competence. Blemishes, indeed, there are, though not perhaps more than must be expected in volumes of this size produced in succession so rapid. Of mere slips and misprints, which can easily be corrected in later editions, there is no need to reproduce a list which has already gone to Cambridge; but there are one or two minor details on which a word may be useful. The maps are not wholly adequate to the text. Readers may save themselves a certain amount of trouble if at the outset they insert, however roughly, at least the following names which are mentioned but not marked: Map 1 or Map 8 or both—Resaina (pp. 17, 87, 127, 131), Nicephorium (pp. 17, 129), Danaba (p. 129); Map 4—Greta Bridge (p. 37, n. 6); Map 9—the Shipka Pass (p. 144). (These page-references do not claim to be complete; but I give such as I have noted because none of these names occurs in the "Index of Maps," and some are absent from the "General Index" too). A clue to the conundrum presented by Map 5 (Roman Britain: the Frontier Country), where sites are variously indicated, without explanation of the reason, by white squares outlined in black, black squares, and black circles, may be found in a passage of the Preface (p. ix) which records that "Map 2" (presumably the second map concerned with Britain—i. e. Map 5) "is based upon the Ordnance Survey Map of Roman Britain." About the translations of chapters originally written in French or German it is less easy to say anything of value. In general they are excellent, and such few difficulties as they present are either too simple or too hard for useful comment here. "Testaments" (p. 130, n. 6) for "testimony" is easy, and "vault,"

almost certainly for "Gruft," on p. 550 is not difficult, though, unless I am mistaken, English usage requires "crypt"; but there is a passage (pp. 244-6) in the chapter on economic life which, though the fault may not be the translator's, to me remains less than wholly plain even after some thought on the obvious possibilities about the precise sense to be attached in a version from German to "activity" and "passivity" in connexion with trade.

The volume opens with two sound chapters, the first by S. N. Miller and the second by W. Ensslin, in which the central thread of Roman history is traced from the accession of Septimius to the death of Philip; and then the enemies of Rome are introduced in three more by L. Halphen on "The Barbarian Background," by A. Christensen on "Sassanid Persia," and by A. Alföldi on "The Invasions of Peoples from the Rhine to the Black Sea." These three, though the caution of Halphen is in strong contrast to the adventurous brilliance of Alföldi, are all admirable in their various ways; but they produce a certain disorder, because to the second there is tacked on a section by Ensslin about the wars with Persia and the third includes an account of the military operations in Europe from Decius to Probus. The result is that emperors fight their battles and disappear before their accessions have been announced: Valerian, for instance, ends his active career by surrendering to Shapur I on p. 135 and becomes Augustus on p. 169, and Aurelian, having waged his European wars on pp. 139 f. and 152 ff., is eventually born on p. 297. It may be suggested that readers not intimately familiar with the third century might follow the history more easily by steering some other course: among various possibilities one is to read pp. 1-125, 165-180, 126-137, 181-202, 222-231, 297-320, 138-164, 202-222, and 232-296 in that order and then to go on continuously from p. 321. At that point they will have been led through the central story to the death of Probus, with digressions in chapter VII by F. Oertel on "The Economic Life of the Empire" and in chapter VIII by R. G. Collingwood on "Britain"; and from it H. Mattingly will carry them on to the death of Galerius. Then follow two constitutional chapters by W. Ensslin on "The End of the Principate" and "The Reforms of Diocletian" before what many may think the best part of a good volume—seven chapters on religion, philosophy, literature and art by A. D. Nock, the late F. C. Burkitt, H. Lietzmann, G. Rodenwaldt, E. K. Rand, and J. Bidez, which are worthily succeeded by two more on "The Great Persecution" and "Constantine" by N. H. Baynes. Most of these it is scarcely possible to over-praise. Nock has done admirable service with a masterly summary of the development of paganism in the third century, which is specially valu-

able for its precise and sober estimate of oriental influence in the West (pp. 422 ff.) ; Burkitt has bequeathed on pp. 467 ff. what is probably as intelligible an account of Gnosticism as so far exists; Bidez's chapter on "Literature and Philosophy in the Eastern Half of the Empire" is a magnificent piece of exposition, which by itself would ensure long life to the work in which it appears; and Baynes's contributions set out his views on matters which he has made peculiarly his own with a lucidity and fairness which well become what is a fitting climax to the high distinction attained by this volume in its last three hundred pages.

Without wishing to indulge in criticism for its own sake, one must reluctantly take leave to confess a certain disappointment at Rand's treatment of "The Latin Literature of the West from the Antonines to Constantine." To me at least he seems altogether too modest about the functions of the literary historian, and his modesty has results which will not escape the careful reader: there may be many who, after pondering what is said of Arnobius and Lactantius on pp. 607-10, will be grateful that Baynes did not omit the illuminating remarks about these two figures to be found on pp. 650 ff. That particular defect has been repaired; but there are others which have not. The Latin *Panegyrici*, who are rightly said by Baynes (in the Appendix on Sources, p. 712) to be of special value for the history of the early years of the fourth century, cannot properly be dismissed as they are in the last sentence on p. 606, and still less can the treatment of the *Historia Augusta* fairly be described as one of the kind which readers of the *Ancient History* are entitled to expect. Rand may, indeed, be right in his belief about this work, and there are certainly a few now living who would agree with him; but it is hard to think that even they would admit that students had been given anything like adequate information about what is a fundamental problem in the study of the third century until at least the negative part of Dessau's argument had been summarized and discussed. In this volume at large the *HA* is variously handled: to take two examples—Alföldi cuts up the mentions of Gothic wars in *Gallieni duo* and *Claudius* and drastically reconstitutes them in the light of information provided by Zosimus and Syncellus (pp. 721 ff.), whereas Mattingly relates the Aper-story (*Carus*, etc., 13) without comment (pp. 322 f.). What an inexpert reader will make of things like this it is not easy to divine, nor can one see how he is meant to understand what precisely is the measure of the "due reserve" with which Mattingly justly says that *Aurelian* 25, 4-6 is to be treated (p. 304, n. 1). So far as it goes, the statement on p. 711 that "the acceptance or rejection of details given in the work is bound to be governed by considerations of general probability

and by the extent to which the sources that have been used can be controlled by their re-appearance in later historical writings" is true; but it is of no value as a guide to the use of the *HA* as evidence until it is backed by some reasoned account of the nature of that production. Despite the remarks on pp. 598 f. and 710 f., it might be a formidable task to convince an impartial jury that a serious attempt has been made to fulfil the forecast made in vol. XI, p. 856—that "a discussion of these matters" (the precise date at which the *HA* was produced, and how far and in what way it may be called "tendencious") "will be given in the following volume." There is, indeed, on p. 730 a list of books and articles on the *HA* "in chronological order to show the progress of the discussion" (in which it is to be observed that Mommsen's article in *Hermes* for 1890 is given the date 1909—that of *Ges. Schriften* VII—and put after Seeck's in *Rhein. Mus.* for 1912); but even so, whether the place for it was the chapter on Latin Literature or the Appendix on Sources, readers may legitimately feel aggrieved at the absence of more detailed information on a matter which is of high importance for the study of much more in the third century than the career of Severus Alexander. It may be much to hope; but the editors would do a service to many if, when the time comes for a reprint, they included an addendum on this subject and so repaired what at present may be thought a flaw in the foundations of this volume.

Its value, however, must not be concealed by regrets at a single omission; for its merits are many and great, and not the least is the proper emphasis laid on the religious history of the period. Far-reaching as were the consequences of the social, economic, and constitutional developments, none of these aspects can claim such significance in the story of Western Civilization as the intellectual and religious ferment from which the Christian Church emerged with the strength that secured it peace in A. D. 324 and set it surely on its way to become the dominant religion both in Europe and in other regions of whose culture Europe is the source. In that ferment pagan and Christian elements alike here receive treatment which is more than merely competent; and so much space has rightly been given to these matters that several episodes are handled more than once—and with differences of interpretation which are a welcome invitation to thought. As an example one may take the Decian "persecution," because it is an affair which raises fundamental problems about the relations of Christianity and paganism in the middle of the third century and about the character of the imperial government itself, and because in the present volume it is described in three separate accounts—by Alföldi (pp. 202 ff.), by Lietzmann (pp. 520 f.), and by Baynes (pp. 656 f.). The first of these versions,

which summarizes a view expounded more fully in *Klio*, XXXI (1938), pp. 323 ff., starts from the conviction that Decius found the Christians generally hated (*Klio*, XXXI, p. 326) and suggests that he may have been personally prejudiced against them because Asiatic believers had served in the forces of his predecessor Philip (*loc. cit.*, p. 328). This hatred is a subject of some importance; for its strength is a presupposition of every theory which maintains that what Decius did was merely to release anti-Christian feeling pent up in the population at large. That anti-Christian feeling existed, and that it was strong in certain places of which Alexandria is the most notorious, there can be no doubt; but to prove so much, which is easy, is not the same as to prove that this feeling was vigorous enough throughout the Empire to provide the motive power of what is represented as a general persecution. The position of the Churches in A. D. 250 is not easy to discern in detail, nor was it everywhere the same; but there are plain indications that a change, perhaps even a great change, had occurred since the beginning of the century. The long periods of peace attested in Cappadocia by Firmilian (Cyprian, *Ep.* 75, 10) and in Africa by Cyprian himself (*De lapsis*, 5) had brought the Church recruits whose surrender in Decius' time suggests that their faith was not such as to survive long if the lives of Christians were made a chronic burden by the hostility of their pagan neighbours (cf., for example, Eusebius, *HE*, 6, 41, 11 ff.—Dionysius Al.). The Christian connexions of the imperial house (*ib.* 6, 28) and Mamaea's interest in Origen (*ib.* 6, 21, 3; cf. Orosius, 7, 18, 7) and Hippolytus (cf. A. Harnack, *Gesch. der altchristlichen Literatur*, I [Leipzig, 1893], p. 621) confirm the impression that Christianity was beginning to be more calmly viewed. And the development of a "Kompromiss-Ethik," of which Clement of Alexandria has left a notable monument in his *Paedagogus*, indicates that Christianity and paganism were drawing towards some kind of *modus vivendi*. Though there was certainly a latent antipathy between pagans and Christians capable of being exploited by agitation, and though in places that antipathy was tense, considerations of which these are a sample impose a doubt about the assumption that hostility was everywhere so fierce as to provide the force behind the events of A. D. 250/1 or even, as is suggested on p. 203, to "induce Decius to act."

The antecedents of these events, however, are not more controversial than the course and nature of the events themselves. One point at least is now beyond serious dispute: as L. Massebieau (*Rev. de l'hist. des religions*, IX [1884], especially at pp. 69 ff.) saw more than fifty years ago, before Egypt had produced fresh evidence in the *libelli*, the obligation to sacrifice was laid not on known or suspected adherents of Christianity alone, but

on the whole of the inhabitants. That fact by itself, since to demand a universal act of sacrifice would have been an almost impossibly clumsy way of merely attacking the Christian communities, which were still only a small fraction of the total population and were not difficult to identify, suggests that something more than a persecution of Christianity was intended; and the story is consequently not to be made plausible without recourse to some hypothesis as that which is to be found on p. 521. There Lietzmann, as also in his *Gesch. der alten Kirche*, II (Berlin-Leipzig, 1936), p. 165, does indeed regard the affair as "the first systematic Christian persecution"; but he rightly adumbrates another aspect of the matter when he adds that Decius "also called to his aid the hearts of his subjects by appointing a general sacrifice of homage and intercession before the images of the tutelary gods of the Empire." This feature of the case is more strongly stressed by Baynes (p. 656) who, developing a point made by E. Schwartz (*Kaiser Constantin und die christliche Kirche*, at p. 42 in the first edition—Leipzig, 1913) and elaborated by Alföldi (*Fünfundzwanzig Jahre Römisch-germanische Kommission* [Berlin-Leipzig, 1930] especially pp. 15 ff.) and Nock (*Harvard Theological Review*, XXIII [1930], especially pp. 255 ff.), insists on the exaggerated respect of the Illyrians for the traditions of Rome as a potent factor in the direction of this affair. "Roman greatness had ever been dependent on the favour of the divine powers—on the maintenance of the *Pax Deorum*: now that the Empire was threatened with unexampled perils, how could success be more surely guaranteed than by a massive demonstration of an Empire's loyalty? It may be suggested that some such thought led the Pannonian Emperor Decius to issue his command that the entire population of the Roman world should by the act of sacrifice attest its devotion to the gods." Such is one way at least of accounting for the facts; and, if it be adopted, the next step is to ask, as Baynes proceeds to do (p. 657), how his determination to enlist the favour of Heaven and how his possible hostility to the Christians respectively affected Decius in his action.

A decision on that point, however, is made more difficult by the presence of a further problem; for the formal object of the sacrifice is in dispute. The first part of Alföldi's study published in *Klio*, XXXI, pp. 323 ff. is an ingenious and persuasive attempt to commend a theory faintly reminiscent of the treatment of a different but not wholly unrelated matter by E. C. Babut (*Rev. hist.*, CXXIII [1916], pp. 225 ff.)—a treatment which met fate at the hands of H. Delehay (Ac. royale de Belgique: *Bulletins de la Classe des Lettres et des Sciences morales et politiques*, 5e Série, Tome VII [1921], pp. 150 ff.). Briefly the theory, as stated in the present volume (p. 204), is that "the Principate

based on Republican and juristic concepts" had been converted "into an absolutism which rested on a theological basis: . . . the offering demanded of the Christians by Decius was something other than an expiatory supplication of the gods, and its purpose was not to restore the *pax deorum* but to attest loyalty to the Emperor. . . . The primary purpose of the offering was the welfare of the emperor and it was a matter of subsidiary importance what god received it." Later on the same page there is even a mention of "such offerings to the Emperor-Saviour." In a review there is not space to discuss this doctrine as it deserves; and, since full discussion is here impossible, it will be best to say nothing either about the suggestion that the silence of the *libelli* and other authorities on the subject of the emperor is due to "eine althergebrachte Hypokrisie" (*Klio*, XXXI, p. 334) or about the dangers of excessive confidence in the interpretation of types and legends on coins—a subject on which readers may be invited to reflect by Mattingly's numismatic section in the Appendix on Sources (pp. 713 ff.). What may, however, perhaps usefully be said is a word about the implications which this account involves; for if, as seems to be suggested, pagan polytheism was virtually summarized into the single cult of the emperor, familiar conceptions of the religious history of the third century would need drastic revision. It might then have to be admitted that, as Ensslin puts it (p. 357), "the world of gods was revalued in honour of the emperor as *numen praesens*" and that, as he adds on p. 407, "in all probability, Diocletian recognized in Juppiter, as Aurelian in Sol Invictus, only a manifestation of the one highest, supreme god-head," or even, as Mattingly writes on pp. 329 f.—to me, I must confess, most unconvincingly, that "if we may hazard a guess at the exact sense in which Diocletian and Maximian were related to their divine patrons, we may say that the Genius of each emperor, itself divine and an object of worship, was now declared to be the very Genius of Juppiter and Hercules themselves." On the other hand, it would be necessary to give some different sense from that which seems, in my opinion rightly, to be intended to Nock's brief remarks (p. 414) that "the Illyrian emperors stood for Rome" and that "Diocletian's main policy was Roman," and to seek further explanation of what would then become a surprising statement by Baynes when he says (p. 651) that "we have perhaps laid too much stress upon the significance of the 'solar monotheism' of Aurelian: it is not easy to say how far the exclusiveness of that cult survived its founder's death. . . . It was to no solar monotheism that Diocletian professed allegiance: it was to many gods and to many local cults that he made his dedications. The pagan revival of

Diocletian is essentially polytheistic. Lactantius knew what he was doing when he levelled his sarcasms against the gods and especially against Juppiter and Hercules—the patrons of the reigning Jovian and Herculan dynasties.”

The third century and the career of Constantine still present problems in plenty, and some of the most urgent are concentrated in the episode of Decius; for, once his outlook and intentions have been securely ascertained, knowledge of the paganism which he sought to support and of the imperial position as he conceived it will provide a firmer basis than yet exists for accounts both of the rapid Christian advance after his time and of the political inheritance—now apt, unless I am mistaken, to be more or less misrepresented under the influence of contemporary events—which Diocletian and Constantine had to develop. But there are others besides. Rostovtzeff's theory of the period, for instance, here at least partially accepted by Oertel (p. 264), still calls for closer consideration; and military historians, who even since this volume went to press have been offered fresh grist for their mill in W. B. Henning's account (*Bulletin of the School of Oriental Studies*, IX, pp. 823 ff.) of the Pahlavi inscription (Christensen's *Kb. Z.*—p. 742) discovered at Naqsh-e-Rostam by the Oriental Institute of Chicago in 1936, will find much to their purpose—not least in Alföldi's dashing reconstruction of Gothic movements in the times of Valerian and Gallienus (pp. 148 ff. and 721 ff.). These problems and many more it is one great merit of this volume to reveal. It does not merely set out knowledge as it is to-day but goes on to indicate the directions in which it can be extended; and in its bibliographies, which rise to brilliance in Baynes's unique guide to the Passions and Acts of the Great Persecution (pp. 790 ff.), it provides the starting-points for the next moves forward. No review could exhaust the virtues of this final volume; but, though much that is excellent must be left unnoticed, a word should be said about the lucid and independent chapter in which G. Rodenwaldt carries on his story of art and architecture to the foundation of Constantinople. It is he who, of the authors, is most concerned in the fifth Volume of Plates, which covers the last two volumes of the text; and for these indispensable accessories those who remember the threat in the Preface to Volume I, that the whole series would be left without illustration, will be too grateful even to regret the consistent economy which has been practised from the outset in giving information about the size of the objects reproduced. In my opinion it may truthfully be said that the editors and their contributors have brought the work to a triumphant end by giving the world an interpretation of the period from Septimius to Constantine which carries the subject a stage forward, nor is it a criticism of their prede-

cessors to add that what is here provided will be the necessary foundation of fresh investigations until something even better is produced; and that may not be soon. So we may leave the *Cambridge Ancient History* to serve the purposes for which it was designed, with gratitude to those who have given their time for almost twenty years to its making. Their labour has not been vain; for though co-operative volumes have inevitable defects and though these have not always been controlled so skillfully as now, few of those whose knowledge entitles them to form a judgment can be in doubt that the *Ancient History* is, and for a while will remain, an instrument with a special value of its own for the study of the times with which it deals.

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FRANZ ALTHEIM. A History of Roman Religion Translated by HAROLD MATTINGLY. New York, E. P. Dutton and Company, 1938. Pp. xi + 548. \$5.00.

This volume is more than a translation of Altheim's *Römische Religionsgeschichte*; for the author has incorporated the results of later work of his own and added references to some of the points on which his main conclusions have been criticized by others. We are therefore all indebted to author, translator, and publisher alike for giving us a most important and original work.

The purpose of the book is "to assign to Roman religion its place in the historical development of Rome," and much of it is properly occupied with Roman development in general. Students of Roman history cannot therefore leave it to the students of religion, and on many of the points at issue their comments are much needed. Altheim's work, like the Sphinx, puts questions which cannot be ignored: but they cannot be answered unless specialists in various fields take a hand.¹ The task is the more complex in that the answer must frequently be neither a plain *yes* nor a plain *no*. Altheim wrestles with facts and is determined to find a meaning, in fact, a set of coherent meanings: in consequence he cannot but press things too far and oversimplify. To say this is not in any sense to condemn him. The ninety and nine just persons who need no repentance leave knowledge much as they find it. The price of advance is com-

¹ For general history cf. L. Wickert, *Deutsche Lit.-Zeit.*, 1936, coll. 934 ff., 973 ff.; for linguistic matters, J. Whatmough's review of this book in *Class. Phil.*, XXXIV (1939), pp. 255-266. Virgilian students will note the analysis (pp. 339-49) of the First Eclogue.

monly exaggeration: but after the exaggeration must come a task of accounting and appraisal. The truth probably lies between Wissowa and Altheim:² if it proves, as I suspect it will, to lie nearer to Wissowa than to Altheim, nevertheless Altheim will not only have changed the position, but, what is more, he will have enlarged the perspective.

His introduction, and first two chapters "The forces of early Italian history" and "Italy apart from Rome" exemplify this very well. They rest on an extensive mastery of a very large and scattered archaeological and linguistic literature, and a great skill in seizing the possible significance of details, and so they reconstruct a background which is largely unfamiliar. They do it with much suggestive comment: in particular, they emphasize certain notable features shared by different areas of the pre-Indo-Germanic Mediterranean world, and few, if any, will read them without profit. At the same time, they contain generalizations which seem to me to involve inaccurate or over-abstract thinking. On pp. 3-4 we read that the antagonism of state and church "which runs through all our Western history, is in ancient times absent. Till the appearance of Christianity the histories of states and religions run on parallel lines. Both are intimately connected and mutually condition their historical form." Now this contains a large measure of truth. Graeco-Roman civilization did not know large bodies of men—except the Jews—with sanctions other than those recognized by the state and with independent œcumenical organization. Greeks and Romans alike, though in different forms, unified the secular and the religious. But antiquity, after all, includes the conflicts of secular and religious authority in Egypt and Mesopotamia, the struggle of the Magi and Darius,³ the relations of Hellenistic kings and of the Roman state with native temples and temple-states, and the tolerance, control, and suppression of alien and private forms of voluntary religious activity. To be sure, the last phenomenon involves a parallelism of development, for the existence of such forms of religious life is intimately linked to political conditions. But is this parallelism any less applicable to the development of Christianity? Was not Constantine's action followed by a new union of church and state which was no less intimate? Is the Reformation separable from the growth of nationalism? Let us, then, say rather that, since the growth of Christianity, such antagonism lies much nearer the surface, is fostered by ideas as well as by interests, and has evolved in-

² Cf. above all H. J. Rose, *Harv. Theol. Rev.*, XXVII (1934), pp. 33 ff., and M. P. Nilsson, *Deutsche Lit.-Zeit.*, 1930, coll. 2224 ff.; 1931, coll. 2358 ff.; 1935, coll. 489 ff.

³ Cf. H. S. Nyberg, *Die Religionen des alten Iran* (German translation by H. H. Schaeder), p. 375.

dependent seats of authority with notable power; but the parallelism of development remains.

Again, on p. 47 cremation and inhumation are said to express two absolutely different conceptions of the nature of the dead: a) the final departure of the dead from the realm of the living, b) the return of the body to the bosom of mother earth, which makes them more powerful than in life, and induces the survivors to conciliate them with offerings. This view has indeed been often expressed: but is it sound? In many times and places from which we have direct statements of what men professed to think and feel, the two rites occur in peaceful proximity to one another, or alternate with no visible conflict.⁴ Certainly offerings were from early times made to those dead who had been cremated, in Italy⁵ as elsewhere, and possibly the traces of fire in Mycenaean burial-tombs are due to a survival of the practice of burnt offerings associated with cremation in the habits of the invading Indo-Germans.⁶ In any case, there is no necessary correlation whatsoever between funerary practice and ideas about the after life, and the latter show at most times an extreme and perfectly natural fluidity and vagueness.⁷ The Homeric custom was cremation: but the poet applies to Castor and Polydeuces the concept of the return to the Earth-mother (*Il.*, III, 243-4):

ὥς φάτο, τοὺς δ' ἤδη κάτεχεν φνσίζοος αἴα
ἐν Λακεδαίμονι αὖθι, φίλῃ ἐν πατρίδι γαίῃ.⁸

If there is a distinction, it is that the concept and fear of the dead man as *der lebende Leichnam* would most naturally arise where the skeleton remains in the earth⁹—though it is found also with cremation—, and that the cult of the relics of heroes

⁴ Cf. Nock, *Harv. Theol. Rev.*, XXV (1932), pp. 321 ff.; Rose, *ibid.*, XXVII (1934), p. 46, and earlier, L. Malten, *Röm. Mitt.*, XXXVIII-XXXIX (1923-24), p. 303.

⁵ H. J. Rose, *Class. Quart.*, XXIV (1930), pp. 131 f. Cf. Altheim, p. 97. Offerings were made afterwards, as well as at the time of the funeral, to the cremated dead of the Palatine city: von Duhn, *Ital. Gräberkunde*, I, pp. 425 f.

⁶ M. P. Nilsson, *Arch. f. Rel.*, XXXIII (1936), pp. 91 ff.

⁷ Cf. Nilsson, *Rev. hist. phil. rel.*, X (1930), pp. 113 ff.

⁸ Cf. Altheim, p. 94; von Duhn, *op. cit.*, I, pp. 423 f. on the sacrifice of young pigs in connection with the early cremations of the Palatine city and on the presence of remains of wheat and beans in the ash-urns there found.

⁹ Rose, *Class. Quart.*, *loc. cit.*, p. 133; J. Wiesner, *Grab und Jenseits (Religionsgesch. Vers. u. Vorarb.*, 26), pp. 164 f. The burial of infants by a population which normally cremates *may* have a significance; but cf. N. Putorti, *Notizie*, 1913, p. 158 for the converse. Note in Rose, *loc. cit.*, p. 132, cremating terramare "cities of the dead" and compare them with the "cities" of which Altheim speaks (p. 48).

was commonly related to the preservation of supposed skeletons or parts of them.

The next section of Altheim's *History*, called "Ancient Rome," is of remarkable interest, dealing as it does with the beginnings of the city, the earliest calendar of festivals, the relation of Roman religion to early Italy, "the Roman form," and the age of Roman myth. Most students will agree that Wissowa's view that *di indigetes* are the native gods, as distinguished from the *di nouensides*, must be abandoned though many will doubt the new interpretation of them as divine ancestors.¹⁰ Further, Altheim may well be right in holding that even the earliest known circle of Roman worships included Greek deities; but his treatment of such acceptance in terms of "divine realities" discerned in the art-representations and cults of the Greeks, and his statement that "one people had had the vision of the god earlier and independently" (p. 124) suit the belief of much later syncretists—as of Apuleius, *Met.*, XI, *P. Oxy.*, 1380, or *Carm. lat. epigr.*, 24—rather than early Rome. We must not think only of Aesculapius and Cybele, whose cults were introduced as *noua* guaranteed useful by the Sibylline books, but also of the practice of *euocatio*. A Roman general, besieging a city in central Italy, could invite its protecting deity to leave his present sanctuary and receive one in Rome. The deity was to have this if, by helping the Romans to victory, he made the Roman people liable to pay its representative's vow. If he did not, there was no interest in worshipping his "divine reality": Veii would suffice for its Juno. Now we are in no position whatsoever to form any estimate of the earliest Rome; but, in default of indications to the contrary, it will be safe to credit it with something like the centralized oligarchic legalism which we know from the oldest forms preserved rather than with this metaphysical romanticism.

I cannot here enter into many of the problems of detail which arise in this section, which is rich and important (e. g. p. 181 on *numen*).¹¹ On p. 174, in the discussion of the *Poplifugium*, H. J. Rose's probable interpretation of it as the festival of a *Juppiter Poplifugus* i. e. *qui fugat populos* should be noted.¹² "It is only the counterpart to a history controlled by divine guidance, that Rome's gods on their side should have preferred to reveal themselves, not in actions beyond time, but in single, historical acts" (p. 199) sounds impressive; but how else did the gods of anyone—except of a few philosophers—"reveal themselves"? The Romans in religion did indeed, unlike the Greeks, remember the foundation-dates of temples and celebrated them

¹⁰ Cf. H. J. Rose, *Harv. Theol. Rev.*, XXX (1937), pp. 165 ff.

¹¹ Cf. Nilsson, *A History of Greek Religion*, p. 166 on *daimon*.

¹² *Class. Quart.*, XXVIII (1934), pp. 157 f.

by festivals (*natalis templi*)¹³ and recorded *prodigia* with regularity at least from 249 B. C.; but we cannot credit them with a philosophical point of view. Rather, these things hang together with their liking for concreteness and regularization. On p. 205 a parallel is drawn between Cacus and the Caeculus of Servius, *ad Aen.*, VII, 678.¹⁴ But their robberies are different; Caeculus gathers a multitude and after long engaging in robbery founds a city: he resembles not Cacus but Romulus and Remus in Livy, I, 4, 9. In a note p. 512, n. 112 (on p. 216) we read "That Virgil rests on valuable ancient traditions has recently been shown in one special case by G. Q. Giglioli, *Nsc.* 1930, 343." The reader who verifies this reference will find that in the sixth century there was a Velthur Tulumne at Veii, and Tolumnius is the name of the augur of Turnus, though Virgil does not represent this Tolumnius as coming from Veii; in other words, Virgil used an Etruscan name; that is all.

The third section, "The Roman Republic" handles the reshaping of cult (Altheim associates the building of the Capitoline temple with a drastic revolution in religious practices and repression of myth), the new influx of Greek cults, the relation of Rome to Italy, and the later intrusion of Hellenism. This too is of great interest.¹⁵ Perhaps Altheim's largest single contribution lies in the emphasis with which he has shown that Rome received in full measure the influences first of the archaic Greek world, and then of the Hellenistic world, and not those of the classical Greek world.¹⁶ This is a fact: but should we perhaps add that the influences of the archaic age in Rome and in Etruria alike were probably in overwhelming measure external, the taste for art-objects and modes of luxury, and only in a small measure inward and bound up with ideas?

To return to points of detail, on p. 270 Altheim, à propos of the foundation of this temple of Ceres, Liber, and Libera in accordance with the Sibylline oracles, says, "Free, deliberate action is no longer possible on man's own initiative; everything done represents the completion of that which has been spoken by the gods (*fatum*). Only at such a behest can an innovation in the state-cult be adopted, a Greek deity be received." New cults were thus received; but so they were in Greece, and in Greece the consultation of oracles operating as such was a commonplace. What

¹³ Cf. *C. I. L.*, I (ed. 2), p. 324 for *feriae* commemorating the establishment of altars to Ceres and Ops.

¹⁴ 768, by error, in the text.

¹⁵ Note especially pp. 280 ff. (brilliant discussion of changes in the early third century and of the part played in them by Q. Ogulnius: Altheim has elaborated this in *Trans. Numism. Congr.*, 1936 [published 1938], pp. 137 ff.), 295 f. on Mens, 306 on *maiores*.

¹⁶ Cf. I. S. Ryberg, *A. J. A.*, XLI (1937), pp. 100 ff. to which Dr. G. M. A. Hanfmann drew my attention.

is peculiar to Rome is not the concept,¹⁷ but the machinery of the *duoviri* (later *quindecimviri*), acting when consulted by the Senate. On p. 290 it is urged that drama at Rome was pushed back into cult-connexions. Surely this gives a false impression. Dramatic performances were associated with *ludi*, religious and funerary; no other suitable occasions existed. Yet, even when a temple formed the background, there is no reference to it in the prologues of the dramas, and the only direct consequence was that the performances were liable to repetition, *instauratio*, if any portent or error occurred (possibly also as an expression of thanksgiving).¹⁸ The objection to stone structures for performances was based on a conservative moralistic reaction and not on any *religio*. On p. 311 Altheim expresses the conviction that an Oriental cult of Dionysos lies behind the Bacchanalia. But we need look no further than Magna Graecia and the Dionysiac representations on South Italian vases (as in Sicily on those of Centuripe). The oath of the initiates, which to Reitzenstein suggested parallels in the Near East, is a natural enough thing, and had perhaps a native Italian background: consider the oath of the Samnite recruits in Livy, 10, 38.¹⁹ With reference to the foreign slaves and their gods (p. 314), I miss any consideration of the Minturnae inscriptions, which show a body of slaves, largely originating from the Near East, united in the worship of Italian deities;²⁰ that is the other half of the picture and is important in view of the continued strength of non-Oriental cults in Imperial Rome with its cosmopolitan population.

The fourth section, "The Augustan Age," includes an interesting analysis of the Secular Hymn of Horace,²¹ but raises various doubts. We read on p. 333 "But what Lucretius aimed at hitting and did indeed hit was that world of Oriental deities, of belief in the beyond and those magical practices that had their sure and unshakable seat, if not among the nobility, in the middle and lower classes of the population." Yet Lucretius' one reference to an Oriental deity is that to Cybele, which is almost respectful; of magic proper he says nothing; and on the after life he is simply following Epicurus, with at most the addition of a certain national grimness. A little later (p. 334) we are told that Horace and Virgil were among the reformers of Roman Religion; would not Horace and Augustus have smiled at this?

¹⁷ Except for what seems to be the characteristic nuance of *fatum*.

¹⁸ L. R. Taylor, *T. A. P. A.*, LXVIII (1937), pp. 291 ff.

¹⁹ Discussed by O. Casel, *Jahrb. f. Liturgiewissenschaft*, VIII (1928), p. 227, *Das christliche Kultmysterium* (ed. 2), pp. 105 f.

²⁰ *A. J. P.*, LVI (1935), pp. 86 ff.

²¹ P. 389 is excellent on the parallel of Dido's dying words and the Roman *elogium*.

The final chapters, on religion in the post-Augustan age, lie outside the main field of Altheim's early investigations, and, though he makes some very interesting suggestions, his touch seems to me less sure.²² The evidence is here of a different nature, and we may doubt whether any man can be equally at home in this field and in the area of native Roman and Italian worships. The section begins with a chapter "Causes of the greatness of Rome," which includes valuable observations but maintains as its principal thesis that the Romans won in the spirit of *pious Aeneas*. Yet other ancient peoples had their gods, their pieties, their luck, their fates; and no Roman general perished like Nicias. We can, if you like, say that at Rome these things were in a greater measure built into the political structure; but the essential characteristic of Rome in religion is, as Nilsson remarked,²³ the organization of cults under the great *collegia* and, we may add, the definite practical dogmatism with which the will of the *collegia* and of the senate was held to run in heaven as on earth.²⁴

This review is long, but an adequate review would have to be a coöperative enterprise and would fill a whole number of this journal. Of necessity, most of what has been said is devoted to matters on which I disagree. In closing, therefore, I must emphasize that the book as a whole is based on wide and deep reading and is at the same time intensely fresh and provocative and valuable, *multis luminibus ingenii, multae tamen artis*.

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JAN ROS, S. J. Die *Μεταβολή* (Variatio) als Stilprinzip des Thukydides. (Rhetorische Studien, herausgegeben von Dr. E. Drerup, Ergänzungsband I.) Paderborn, F. Schöningh, 1938. Pp. xxiv + 512. RM. 16.

This careful monograph is designed to present in a systematic way those changes in vocabulary, usage, and syntax by which Thucydides achieves a variety of expression and avoids the monotony inherent in a strictly antithetical style. Far the greater part of the work is given to listing and analyzing actual examples of variation under the seven headings (each with many sub-headings) of variation in form or meaning, by similar words, by different words, by the *constructio ad sententiam*, in the

²² As when he says, p. vii, that the religion of the post-Augustan age "has so far been exclusively treated from the angle of ruler-cult." The chapter on the age of the Severi (pp. 455 ff.) seems to me the best in this part.

²³ *Röm. Mitt.*, XLVIII (1933), pp. 245 ff.

²⁴ Nock, *Harv. Theol. Rev.*, XXXII (1939), pp. 83 ff.

gender, number, or case of nouns, in the person, voice, tense, or mood of verbs, and in construction. This undoubtedly is the most valuable part of the work. The very great number of passages adduced and their clear division into categories give even on a casual reading a sense of the richness and subtlety of Thucydides' style that could hardly be had from a less exhaustive study. At the same time, the author's discussion of any given usage and his great care in collecting parallels should prove invaluable not merely for the interpretation of specific passages but perhaps especially for the choice between variants and emendations, both of which the author is at pains to cite. He argues forcefully (pp. 458-9) against emending or choosing variants on the assumption that Thucydides generally maintained a rigid parallelism, and undoubtedly his influence should tend to restore to the text a variety of expression now sometimes obscured. Thus the work should become a handbook for editors of Thucydides. It treats, to be sure, only one of what the author calls (p. 456) the three main elements of the historian's style, the other two being, in his judgment, its departure from normal expression (*ἐξαλλαγή*) and its tendency to parallelism, the obverse, as it were, of the tendency to variation here described. Nevertheless, though it thus calls for a companion volume, this monograph embraces so many previous studies and is in itself so thorough, that it may well stand as a more valuable treasury of Thucydidean usage than any compiled hitherto.

It is difficult to give the same unmixed praise to the author's interpretation of his material as to his diligence in collecting and clarity in using it. He begins by setting forth the evidence on *μεταβολή* (*ποικιλία*) or *varietas* as a principle of ancient rhetoric; and, though the majority of his citations are from Dionysius and later rhetoricians (with a few from Cicero and the *Auctor ad Herennium*), he is entirely convincing when he points to Hippias *frag.* 6 (*Vorsokr.*⁵, II, p. 331, 15), Isocrates (*Contr. Soph.*, 16, *Antid.*, 47, *Phil.*, 27) and Aristotle (*Rhet.*, I, 11 and III, 12) as adumbrating the principle much earlier. Aristotle's remark that a style intended for reading should avoid *asyndeta* and repetitions of the same idea in different ways, though both these mannerisms are permissible, even desirable, in speaking, tallies essentially with Isocrates' statement (*Phil.*, 26); but even without this testimony it would seem certain that the earliest sophists, emulating as they did the dignity of verse, made men well aware of the distinction between ornate and practical prose. The former would have followed the poetic, varied, and pregnant style then associated with the narratives and generalizations of verse; the latter would have maintained the lucid plainness of the *ὑπόμνημα*.¹ But, although then there is every reason to believe

¹ Cf. W. Aly, "Formprobleme der Frühen Griechischen Prosa," *Philologus*, Supplementbd. XXI, Heft III (1929), pp. 44-63.

that Thucydides, being much under the influence of the earliest sophists, would naturally have sought variety as one of the objects of his style, the author's two further contentions, first, that his actual inconcinnities reflect this principle and this alone, and then that, being as varied as it is, his style is unique, seem neither probable in themselves nor to follow from the evidence.

To take these two points in order, the view that most or even many of the examples of varied usage adduced by Ros primarily reflect the historian's conscious or unconscious search for variety does scant justice to other and often noted qualities of his mind and style. As one out of very many possible instances, consider the passage II, 63, 2-3, where Pericles remarks of empire, *ἥς οὐδ' ἐκστῆναι ἔτι ὑμῖν ἔστιν, εἴ τις καὶ τόδε ἐν τῷ παρόντι δεδιώς ἀπραγμοσύνη ἀνδραγαθίζεται*, and then, three lines later, sums up his position in the general statement *τὸ γὰρ ἀπραγμον οὐ σφάζεται μὴ μετὰ τοῦ δραστηρίου τεταγμένον*. On p. 157 the author cites the differing forms *ἀπραγμοσύνη* and *τὸ ἀπραγμον* as an example of *μεταβολή*. Neglecting the fact that the neuter adjective is preferred to the general noun in the second sentence partly for reasons of symmetry, one may rather consider what is accomplished by the mere shift from noun to adjective. Such abstract neuters probably came into common use through the example of the scientific writers of the fifth century. Certainly the fragments of Anaxagoras and Diogenes abound in these forms which not only replace substantives where none exist, but possess a greater immediacy and concreteness than existent substantives, at the same time sharing their abstractness.² Now no one would deny that Thucydides, like his teachers the sophists, surveyed human events with that sense of universal law with which the physical scientists had viewed the cosmos. Yet, since he wrote not a treatise on society but a history of actual events, he faced the double task of expressing not only the abstract law but the immediate occurrence and in such a way that the law might seem to emerge from the occurrence. This latter purpose is served in the present passage by the change from the purely abstract feminine to the more concrete and vivid neuter. Again, the combination of the general with the specific appears in such a characteristic coupling as *ἐπιτρέψαντες τοῖς ἐννέα ἄρχουσι τὴν φυλακὴν τε καὶ τὸ πᾶν αὐτοκράτορσι διαθεῖναι* (I, 126, 8), listed by the author on p. 149 as an example of *μεταβολή*.

One could continue much farther enumerating those attitudes either native to Thucydides or inherent in his task which, rather than any simple stylistic rule, seem to have dictated his actual varieties of expression. For example, besides his desire to com-

² Cf. Classen-Steup, *Thukydides*⁵, I (1919), introd., p. LXXV, "Durch die Verwendung der Neutra wird . . . die abstrakte Allgemeinheit der betreffenden Begriffe für den vorliegenden Fall in eine mehr greifbare, eine konkretere Form gekleidet."

bine the individual and the generic, there is his feeling for fact, his wish to report what actually happened. In so momentary an event as he relates in I, 48, 2, καθορῶσι τὰς . . . ναῦς μετεώρους τε καὶ ἐπὶ σφᾶς πλεούσας, cited by Ros on p. 161, one sees him augmenting the vaguer μετεώρους by a more precise phrase, and time and again, as in the example cited at the end of the last paragraph, a second construction appears to differ from a preceding simply because it conveys more exact and detailed information. Related to this striving for accuracy is the compactness of style with which he tries to present at one time several different aspects of a situation; also the vividness, born of experience in battle and nurtured on the many accounts which he must have heard, with which he alters tense and construction to portray more exactly the scene as it was. Finally, there is an element tending to variety which is difficult to feel even in a foreign language that one knows well but which is at once apparent in the best prose or verse of one's own tongue, namely, the degree to which mere sound in ways too delicate to be analyzed dictates an unusual but entirely happy collocation of words. In a suggestive chapter W. R. M. Lamb³ some years ago observed the same quality of bold experimentation in the style of Thucydides as appears among the English prose-writers of the seventeenth century. But without pressing the analogy one can at least agree that Thucydides, inspired by those teachers who first conceived for prose as high a destiny as that of verse, felt free to seek those bold and unusual effects, that *curiosa felicitas*, which are most marked in Greek verse and, wherever found, are proverbially a matter of ear, not of rule. In sum, the title of Ros' book, *Die Μεταβολή als Stilprinzip*, is misleading; much more so is his habit of explaining each example of variation by this one stylistic principle. His book, as has been said, is extremely useful because it sets forth very thoroughly those changes in expression which no one would deny are highly characteristic of Thucydides. But the explanations given for those changes are limited and stereotyped.

Then, the contention most clearly expressed on pp. 458-63 that the style of Thucydides is unique and thus, one gathers, not representative of his age is difficult to accept without many reservations. Aristotle's distinction between the styles designed for hearing and for reading was noted above; indeed the author's own argument that Thucydides, in seeking variety, followed a stylistic tenet of his time refutes his own conclusion. It is interesting to test Aristotle's statement by the fragments of two works of the sophist Antiphon, the one of which, the *Ἀλήθεια*, is a closely reasoned tract clearly meant for reading, while the other, the *Περὶ Ὀμολοίας*, is a sophistic speech.⁴ Now the style

³ *Clio Enthroned* (Cambridge, 1914), pp. 308-12.

⁴ Aly, *op. cit.*, pp. 154-5.

of the former is very regular, and purposely so, since the author's difficult train of thought, expressed as it is by general nouns, articular infinitives, and abstract neuters, needs the bare clarity of parallel and contrasting clauses. Occasionally he varies his constructions—for instance, in *frag. A*, col. 5, 9-13 (*Vorsokr.*⁵, II, p. 350) he concludes a series of relative clauses by a participial clause, and in *frag. C*, col. 2, 3 (*ibid.*, p. 355) continues the causal dative τῷ μίσει by the construction καὶ ὅτι—but, on the whole, he is regular both because he wishes to be clear and because, unlike Thucydides, he is wholly concerned with abstract ideas. In the *Περὶ Ὀμοιοίας*, on the other hand, one notes a large number of the same variations that Ros has listed—for instance, change of mood (λέγωμεν . . . λεγέσθω, *frag. 49*; *ibid.*, p. 358, 5-6), change of tense (ἐκτῆσθαι . . . κτᾶσθαι, *frag. 49*; *ibid.*, p. 358, 4, and most marked in the narrative passage, *frag. 54*), variation of similar words (τὸ λυπηρόν . . . λῦπαι . . . λυπήματα, *frag. 49*; *ibid.*, p. 358, 9-13), joining of different classes of words (τὸ ζῆν . . . τὸ μήκος τοῦ βίου, *frag. 50*; *ibid.*, p. 360, 4-5), change of number (γάμων . . . γυναικός, *frag. 49*; *ibid.*, p. 357, 14, and most marked in ἀξιώσαντα καὶ ἀξιωθέντα after ἴσα φρονούντας, *frag. 49*; *ibid.*, p. 358, 2-3), variety of construction (τοῦ βίου ἐς τὴν ξυλλογὴν . . . τοῦ βίου τῆς ξυλλογῆς, *frag. 49*; *ibid.*, p. 359, 6-12), irregularity of construction (χαλεπαὶ μὲν ἐκπομπαὶ governing τοὺς φίλους ἐχθροὺς ποιῆσαι, *frag. 49*; *ibid.*, p. 358, 1-2; contrast the regular construction with χαλεπὸν in the next line), general variety of structure (φροντίδων ἤδη πάντα πλέα καὶ ἐξοίχεται τὸ νεοτήσιον σκίρτημα ἐκ τῆς γνώμης καὶ <τὸ> πρόσωπον οὐκέτι τὸ αὐτό, *frag. 49*; *ibid.*, p. 360, 1-3). The list could be continued even in the few fragments that we possess; how much more might it have been, were the whole work extant.

Or again, many examples of the same variety appear if, in the lack of any extended work of the early sophists, one read through a play of Euripides with Ros' categories in mind. Such a list gathered hastily from the *Medea* alone covered two pages and contained something like a hundred entries, and that although, as Drerup pointed out,⁵ Euripides has less in common with the poetic and antithetical style of Thucydides (and, he argued, of the older sophists) than with the periodic structure and purer usage of Thrasymachus. To set down that list in detail is perhaps unnecessary, but two items of it may be of interest. Summing up his case that Thucydides' style is quite unusual, Ros (p. 456) cites certain examples in German and says, "Zu Wasser und zu Lande" wird bei Thuk. 'zu Wasser und auf dem Lande.' But one reads in the *Medea*, 193, ἐπὶ τ' εἰλαπίνας καὶ παρὰ δειπνοῖς. Again, he sees (pp. 268, 280) in the changes of

⁵ "Theodoros von Byzanz," *Jahrbücher f. class. Philologie*, Supplementbd. XXVII (1902), p. 229.

tense in Thucydides' narratives a mark of his individual style, but in the *ρήσεις* of the *Medea* historical presents are freely mingled with aorists (1161-63) and imperfects (1189-90) and these with each other (1146-7). As I have argued elsewhere,⁶ Thucydides' descriptions were undoubtedly to some extent modeled on the *ρήσεις* of tragedy, and his use of tenses presumably merely bears out the fact.

To conclude, in essence the varieties of Thucydides' style suggest not that he was an individual stylist utterly at variance with the fashions of his day but rather that he fully shared those fashions. Doubtless, as was suggested above, he attempted to combine the abstract and the actual in a way that the sophist Antiphon, for instance, did not in the *Ἀλήθεια* or the *Περὶ Ὀμολοίας*, and in general his penetrating mind may well have conceived, especially through his long years of exile, wider and more inclusive purposes for his book than any for which his contemporaries had striven. To that extent then the style of his narratives and speeches alike would in fact be unique and, as such, no true guide to the speech and thought of his contemporaries. And yet the very fact that in his youth in Athens he could be led to conceive such a style is the surest proof that he followed standards then generally received and that those standards subverted a varied prose, more bold, more akin to verse, than any of the following period. Lamb's analogy of seventeenth century prose is instructive here. One could say that the bold flights of Milton's pamphlets and Donne's sermons are more individual because more experimental than the simpler and more conventional writings of the eighteenth century, for instance, those of Addison or Steele. Yet to say that Milton's prose entirely differs from Donne's would be absurd since both in fact embody the contemporary standard of artistic prose. Just so, the similarities noted above between Thucydides, Antiphon, and Euripides permit individual differences within a fundamentally similar concept of lofty, dignified expression. And when, as I have tried to show elsewhere,⁷ still other elements in the thought and style of Thucydides seem marked by the intellectual influences surrounding his early years in Athens, there is added reason for believing that the varieties of usage taken by Ros to prove the uniqueness of Thucydides' style in fact prove its dependence on an older theory of sophistic prose which, on the one hand, aimed at profound and searching generalizations and, on the other, at the heightened diction of poetry. That theory surely encouraged a bold uniqueness of expression, since prose, except in the *ὑπόμνημα*, had not yet achieved a cast of language quite different from verse. In a sense, therefore, one may call

⁶ "Euripides and Thucydides," *Harvard Studies in Classical Philology*, XLIX (1938), pp. 61-4.

⁷ See the previous note.

Thucydides' effects, like those of Milton, unique. But in another and more important sense, it seems truer to see in them an example of contemporary usage, perhaps heightened and intensified but in essence faithful.⁸

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DAVID M. ROBINSON and PAUL AUGUSTUS CLEMENT. *Excavations at Olynthus. Part IX. The Chalcidic Mint and the Excavation Coins found in 1928-1934.* Baltimore, The Johns Hopkins Press, 1938. Pp. xxxi + 431; 36 plates. \$15.00.

The great number of silver coins of the Chalcidic League found in the excavation of Olynthus has created both an opportunity and an obligation to make a complete study of that beautiful coinage. Dr. Clement has for some years been gathering material for a corpus, and the result is a monograph which commands the gratitude and the admiration of numismatists. Casts have been collected from all sources in an effort to make the work as complete as possible.¹ The whole material is arranged in a system so logical and clear that new discoveries will fall readily into place. This is discussed in an admirable section on the Relative Chronology in which analysis of the style, the dies, and the hoards results in a series which may be considered definitive.

There follows a section on Absolute Chronology in which 432 is proposed as the date for the beginning of the ΧΑΛΚΙΔΕΩΝ coins. This would not be invalidated by the acceptance of 479 as the date of the origin of the Chalcidic state (as proposed by Hampl); but 432, the year of the alliance with Potidaea and Bottiaea and the revolt from Athens, is the more probable date on literary grounds, strongly supported by the numismatic arguments. The year 379 when Olynthus capitulated to the Spartans is supported by the numismatic evidence as a likely point for the beginning of the series signed by the magistrates, eleven in number, the first nine of whom held office for three years, the last two for four years between them. This period of the magis-

⁸ The subject is discussed at greater length in "The Origins of Thucydides' Style," *Harvard Studies in Classical Philology*, L (1939), pp. 36-84.

¹ Two apparent omissions are not actually such. The tetradrachm published by Prowe, *Trudy. Moskovskoe numizmaticheskoe obshchestvo*, Tome II, p. 32, No. 2, Pl. II is Clement's No. 97 e; that published by E. S. G. Robinson, *Num. Chron.*, XVII (1937), p. 238, No. 6 is his No. 83 a. On p. 54 in tetradrachm No. 81 c for R. Jameson read H. de Nanteuil.

trates is worked out with an elaborate mathematical demonstration that the normal term of office must be three years and neither two, four, nor any amount less or greater. Since 348 is certainly the terminal date for all the Chalcidic coinage, the thirty-one years of the magistrates (nine at three years + two at two years) must have begun in 379.

It is perhaps unfortunate that the chronology of the bronze is not treated in this section but much farther along in the book (pp. 298-300). The bronze, in three denominations, probably began with or just after Group J of the silver (*ca.* 398-395) when the quantity of tetrobols issued diminished. Thereafter it seems to have been struck continuously. But the discovery that Bottiaean reverses were struck with the same obverse dies as Chalcidic reverses shows that Bottiaean bronze was being issued at Olynthus. It is suggested that this may have been done by or for a Bottiaean element in Olynthus, possibly to be connected with the anti-Macedonian party in the town, 357-348. This would imply that the muled obverse dies were the last used with Chalcidic reverses, and that the Chalcidic bronze is to be dated 398-357, the Bottiaean 357-348. Otherwise this is a case of Olynthus minting for the Bottiaeans outside the city and the series will be simultaneous, perhaps 398-348. The question is one which can be settled only by an intensive study of the excavation's bronze coins, now at Athens. It is to be hoped that Dr. Clement will have the opportunity and the public spirit to duplicate his achievement with the silver by an arrangement of the bronze, a still more difficult task but one that would be even more useful, at least to excavators, whose dating is so frequently dependent on the bronze coins.

The first part of the volume continues with individual analyses of the hoards, with a general discussion of types, symbols, and inscriptions and with a note on forgeries. The second part contains a catalogue of the coins found in 1934, a résumé, with commentary, of all the finds of 1928 and 1931 as well as 1934, and a concluding discussion of the evidence of the coins. The résumé not only makes all the coins available together, but greatly improves on the presentation in *Olynthus* III and VI. Nevertheless, this is the least satisfactory part of the book, for it is vitiated by special pleading particularly unfortunate because it is utterly unnecessary. It is the excavator's contention "that the Northwest Quarter was abandoned about the time of the reign of Cassander and the rest of the excavated area about 348" (p. 370). So far as the numismatic evidence goes, this contention is overwhelmingly supported. As shown by the tables (pp. 364-367) there are 3528 coins which must have been issued before 348, while adding together all those classed as "before and after 348," "after 348" and "doubtful" we only have a

total of 319, of which 31 are Roman or later and so cannot affect the question.

In spite of the obvious sufficiency of this testimony there is much ingenuity and some perversity shown in attempting to reduce to an absolute minimum the number to be dated after 348. To this end the "doubtful" column contains not only those issues as to whose date authorities disagree, but also those where the excavator seems to be the only doubter. For example: the table contains one coin of Megara classed as doubtful with the remark "conventional date: Cent. III B. C." The basis for the doubt must, one would suppose, be some cogent dating opposed to the conventional one. But the discussion (pp. 348-350) is an attack on the suggestion of "the third quarter of the third century B. C." offered by F. O. Waage.² The argument is not that Waage's arrangement is wrong but that it is uncertain. Well, I suppose Waage himself would have no hesitation in admitting that; but, uncertain though it is, it is at present the only arrangement available, and it seems to me much too useful a one to be abandoned except for better evidence. What is the conclusion from Olynthus? That the coin is not later than Cassander (316-297). And on this basis it is listed doubtful, *that is, either earlier or later than 348!*³

This is the most extreme instance, but in the cases of Eleaus, Hephaestia, Myrina, Salamis, Heracleia Pontica, and Cyne as well, the authorities cited are unanimous for a late date, but the coins are in the "doubtful" column. In the sense of "not proven" of course they are "doubtful," but if the word means that there is equal reason to consider them early or late, it is hardly proper. It is noticeable that the same authorities, with the same basis for their opinions are accepted without question when their dating is before 348 (e. g. Cypsela). But what is the use of all this exertion? The placing of this handful of coins cannot affect the general conclusion, and the general conclusion can only be used for placing them on the assumption that because there are ten times as many early coins as late it is therefore ten times as likely that any particular coin will be early. Surely this is not seriously proposed as a reason for rejecting Head and Babelon.

Where this issue does not enter in there is much valuable material in the commentary, particularly in the treatment of Macedonian coins. I have dwelt with disproportionate length on what seems to me a mistake in method, not in the least

² *Greek Bronze Coins from a Well at Megara.*

³ It must be noted that on p. 371, note 11, it is admitted that three pieces, of which one is that from Megara, were probably lost in the second half of the fourth century. But why make the admission where not one reader out of a hundred will find it?

because I would question the conclusion as to the dating of the site, but because I dislike to see small red herrings dragged across the difficult trail of numismatic chronology, and because the authority of so very admirable a book might easily be taken as final.

The Plates are a great improvement over former volumes, and particular mention should be made of the fine four-diameter enlargements of seven obverses and one reverse. Finally, the inclusion of a sketch map of the site is a valuable addition.

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FRANZ CUMONT. *L'Égypte des Astrologues*. Bruxelles, Fondation Égyptologique Reine Élisabeth, 1937. Pp. 254.

In 1936 Wilhelm Gundel published the text of a Latin Renaissance manuscript containing the *Liber Hermetis Trismegisti*. In a penetrating study Gundel established that portions of the text must be a translation of Greek astrological literature of the third century B. C. The bulk of that literature has perished, but comparison of the new text with the standard astrologers of post-Ptolemaic times—Manilius, Valens, Firmicus, Rhetorius—leaves no doubt of a common heritage from Greek works written in Egypt in the third and second centuries B. C. Since the Hellenized Egyptian priests who were responsible for the early compilations naturally made numerous references to the social and, in a lesser degree, the historical and political phenomena of their environment, the continued neglect of the astrologers as an historical source seems not to be justified. But few historians have a sufficient command of their specialized terminology to disentangle the factual from the imaginative in their obscure subject-matter, and consequently, taking his cue from Gundel, Professor Cumont, who has no superior among modern students of astrology, has culled from the sources for the use of Egyptologists and papyrologists such data as are pertinent to their interests. Cumont is not concerned with the development of astrology in Egypt but with the society in which that development took place. His book is a description of Ptolemaic Egypt derived from the astrological literature.

After a preface which gives a brief sketch of the fortunes of astrological studies since the Renaissance and emphasizes the value of the ancient authors for the understanding of Egyptian society, the author devotes an introduction of some ten pages to an evaluation of the *Liber Hermetis* as an historical source and its relation to the later astrologers. The introduction has considerable value for the general scholar inasmuch as it provides a bird's-eye view of the present status of astrological scholarship.

The significant discovery that the standard literature—Manilius, Valens, etc.—has its roots in the Ptolemaic period, has brought the chief problems to a sharp focus. Investigations in ancient astrology have entered a period of intense interest in "*Quellen-geschichte*." That this stage has been reached at all is due to the prolonged and devoted labors of men like Cumont, Boll, Kroll, and Gundel; but many decades will pass and many technical monographs will have been written before the historian will feel any assurance in venturing into the astrological morass. For this reason, all the more, scholars will not hesitate to express a profound gratitude to Professor Cumont for having written a very readable book in which he places the experience of a lifetime spent in the study of astrological texts at the disposal of laymen.

The plan of the book is consonant with its purpose. Two large divisions entitled (1) Government and Society (pp. 25-112) and (2) Religion and Morality (pp. 113-206), give us in a running text, which will please the general reader as well as the scholar, an account of the major activities and phases of life in Ptolemaic Egypt: the royal court, the army and the civil service, city and country, work and play, religion and its devotees, gnosticism, divination, magic, manners and morals, law and its victims, life after death. It is an account conditioned by the limitations resting on the experience of the priestly writers and by the limitations of astrology itself. The astrologers had no great experience of imperial or dynastic ambitions or of the internal administration of Egypt. Their knowledge, for example, of the organization of the Greek cities is most meager (pp. 71 ff.). In respect to social and moral history, astrology itself is at fault. Like magic, it has a special attraction for people when they are in trouble or driven by arrogant ambition or caught in a maelstrom of passion. It is to astrological prediction and magical device that men turn to excuse or conceal their own insufficiency. Naturally the astrological writings yield a dark and painful picture. Once these restrictive factors, however, have been admitted, a valuable criterion has been evolved for estimating such information as can be extracted from the astrologers.

At least as important as the text itself is the body of notes, which occupy easily more than half the space. Cumont has given abundant references with extensive quotation from the sources. The passages are arranged to illustrate the Ptolemaic relations of the later compilations; and, quite apart from their main purpose, they will make a strong appeal to scholars interested in the history of Latin translation from the Greek or in materials for lexicography. To his own notes the author has frequently appended signed notes of great value from the hand of a brilliant papyrologist and historian, Mlle. Claire Préaux. The impression that results from her remarks is decidedly more

favorable to the hard-working, commonplace life reflected in the papyri, as a true picture of the daily round, than to the rather unbalanced exaggerations that we expect and find in astrology. From it, as from the Roman authors, the Egyptians of antiquity obtain a reputation for turbulence and unrest; they are a people given to magic and strange cults. The papyri seem to tell another story as well. If the ancient Egyptians, like their modern descendants, were restless under foreign domination, a number of other peoples, ancient and modern, have shared that weakness with them. In texts less feverish than the astrological and the magical and less prejudiced than the Roman, we see the great mass of the Egyptian people laboring to feed Rome, marrying, begetting children, educating them for trades and professions, struggling for higher social status, celebrating religious festivals with music and dancing. If there were Egyptians guilty of parricide, incest, rape, theft, assault, they were perhaps no different from thousands of others all over the civilized world at all times who have broken through the restraints of moral codes. On the whole, I venture to say, the utility of the astrological literature for social history will depend on the maintenance of constant control with the less emotional data of the papyri.

An appendix (pp. 207-216) illustrates the basic thesis of the volume, that the relatively late astrological literature preserves and adapts Greek works compiled in Egypt at least as early as the second century B. C., by attempting to fix the source of Firmicus Maternus VIII, 18-31, in that period. The discussion is a model of sound reasoning, and the conclusions are as valid as the methods of historical deduction can make them. Most important is Cumont's view that the words *satis felices nascentur eunuchi, et quibus regni tuitio credatur* conceal a reference to Eulaios, the eunuch who was associated with Lénaios in the guardianship of Ptolemy Philometor. Very ingenious as well is the suggestion that *duplex regnum* describes the rule of Ptolemy Physcon over Egypt and Cyrenaica after 145.

The book concludes with valuable indexes of Greek and Latin words, a list of passages in the astrologers to which Cumont has made critical contributions, and an analytical table of contents. Here and there throughout the volume false accents in the Greek and misprints, especially in the Latin, detract from the pleasure of a well composed and printed page; but these will give no trouble to the classicist. Readers not familiar with papyrological literature will find the following errors confusing: p. 57, n. 4 Winckler for Wilcken; p. 62, n. 5 Vertel for Oertel. The Paniskos letter cited by Mlle. Préaux on p. 65, n. 3 may now be studied in a new edition in *P. Mich.*, III, 214. The edict of Philopator addressed to the priests of Dionysus (*B. G. U.*, 1211), which Cumont interprets in the traditional way (p. 152, n. 4),

is now given a more prosaic and more likely turn by Eitrem, *Symbolae Osloenses*, XVII, pp. 33 ff.

These minutiae¹ are not a fitting epilogue to a review of an agreeable book, competently conceived and expertly executed, which may well have the effect of adding breadth and depth to the work of papyrologists and historians. For the historian the evidences of chronological stratification are the indispensable beginning, and the example which Cumont sets in this regard is salutary. Passages borrowed from Oriental sources may be identified by traces of non-Hellenistic institutions and thought, e. g., "king of kings" and "satraps" (p. 22) or the impassable gulf between kings and magnates on the one hand and the masses (*δῆμοι*, *ὄχλοι*) on the other (pp. 68, 74). Adaptations of the Roman period (p. 70, n. 3) must be retranslated into terms of the Ptolemaic age, and Roman interpolations must be isolated (p. 73, n. 6). From literal or awkward Latin translations the original Greek must be recovered (pp. 16 f., 210, 212), and this task requires a highly developed *Sprachgefühl* supported by extensive and precise historical knowledge. The finesse and intuition, the keen perception of differences, the erudition, the delicate method necessary to disentangle the threads of thought and to sense at times even the suppression of thought is beautifully illustrated in what I do not doubt is the best chapter of the book, that on survival after death (pp. 200-206), where Cumont is on ground peculiarly his own.

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MERIWETHER STUART. *The Portraiture of Claudius: Preliminary Studies*. New York, 1938. Pp. xiv + 93. (Columbia Univ. diss.).

Curiously, the extant portraits of Claudius figure in this monograph only by way of an appendix. The monograph itself is concerned with the evidence for portraits which, though doubtless they once existed, have long since disappeared. To the cynical it will seem that the problem, so limited, belongs to that shadowy group exemplified by the problem of the number of angels one might reasonably expect a needle's point comfortably to serve as a dancing-floor.

¹ It would be a pity to deprive American university men of choice samples of Cumont's modernity: p. 67 "Ils enlevaient aussi les enfants, comme les 'gangsters' américains, pour en exiger une forte rançon"; p. 74 "... les villes grecques, on le sait, avaient coutume d'accorder la bourgeoisie à des bienfaiteurs étrangers, et, sous l'Empire, la vanité des grands se plut à accumuler ces naturalisations honorifiques, comme certains le font aujourd'hui des décorations." Decorations, of course, are the French equivalent of honorary degrees.

Part I is a collection and discussion of references to the non-extant portraits of Claudius. Records of the sometime existence of portraits are to be found in Dio, Josephus, and perhaps Pliny (pp. 1-6), a single papyrus (pp. 6-13), numerous statue-bases or possible statue-bases bearing the name or part of the name of Claudius (pp. 13-36), and at least one reverse type of those which appear on coins struck by Claudius and Nero (pp. 36-39). Of these sources only one gives any considerable body of data, the inscribed bases. Something more than a hundred are listed, first according to their provenience (pp. 14-22), next according to their date (pp. 22-28), and finally according to their dimensions (pp. 28-36). The heavy duty of carrying the commentary on the items of this cumbersome tripartite list is borne by the footnotes, generally sufficiently interesting to cause one to regret that the position of notes and text is not reversed.

The list of inscriptions accepted as portrait-dedications of Claudius falls short of a desirable degree of certainty in two respects. For somewhat less than half is there information specifically identifying as a base the monument bearing the inscription (p. 13, note 93), and in the absence of this information the touch-stone used for the identification of a portrait-inscription is the presence of the emperor's name in the dative case for Latin inscriptions, in the accusative for Greek, a criterion that can obviously lead to inaccuracy as the author warns (p. 14). Mutilation leads to further difficulties with various items of the list. I note several examples from the earlier parts of the list: *C. I. L.*, VI, 36895 (p. 14, note 98); *C. I. L.*, IX, 6361 (p. 15, note 100); *C. I. L.*, V, 4309 (p. 15, note 103); *C. I. L.*, XIII, 1038 (p. 15, note 107). These examples may serve to show that a student interested in the inscriptional data will doubtless find it necessary to struggle with the ponderous volumes of the *Corpus* (and other sources) before he can be quite sure with what degree of reasonableness a given inscription is listed as a record of a non-extant portrait.

I note a few additions and corrections. On p. 18, *s. v.* Ephesus, add as a bracketed inscription according to Stuart's convention (p. 14 with note 95) *Forschungen in Ephesos*, III, p. 94, No. 3. Under the same rubric correct the last line of the text printed in *L'Année Épigraphique* by that in *Forschungen in Ephesos*, III, p. 110, No. 19. Under Cos add Maiuri, *Nuova Silloge Epigrafica di Rodi e Cos* (Florence, 1925), No. 468 (cf. Nos. 462 and 464, and for the dative in Greek dedications see Stuart's note 115 on p. 17), No. 469, and No. 680 (as a bracketed inscription). On p. 16, *s. v.* Macedonia, apropos of *I. G.*, IX², 81, cf. *B. C. H.*, XLVIII, 1924, p. 366. To the list of doubtful portrait-inscriptions on p. 19 add *Hesperia*, IV (1935), pp. 57 f., No. 20. In all references to the article "Claudius

(256)" in the third volume of Pauly-Wissowa-Kroll, *Realencyclopädie*, for Gaheis read Groag (the proper author of the greater part of the article), except if the reference be to cols. 2836-2839 (the end of the article over the signature of Gaheis).

Numismatic evidence potentially relevant to an iconographic study of a Roman emperor is of two kinds. First, there is the possibility that some contemporary statue or group is to be found represented in a reverse type. This kind of evidence has been examined (pp. 36-39), and it has been found that in one reverse type alone is there any probability attached to the identification of a sculptured Claudius portrait (*B. M. C. Roman Empire*, I, p. 201, Nos. 7-8). The second and more interesting line of enquiry, the possibility of the existence of models on which are based the portraits preserved on the obverses of coins, is ignored. To develop this would require a wearisome amount of classification, and to establish the thesis might entail a too subtle argument; yet a rigorous classification of the types of heads on an emperor's coinage would be clear gain, and such phenomena as the curiously similar and very fine heads of Claudius which appear on a tetradrachm struck at Ephesus in A. D. 41/2 (? *B. M. C. Roman Empire*, I, Pl. 34, No. 1) and on an aureus struck at Rome under Nero in A. D. 54/5 (? *ibid.*, Pl. 38, No. 7) lead one to suspect that the existence of models might not be impossible to establish.

Part II (pp. 40-67) contains an analysis of the data assembled in the first part "for their contribution to: 1) the chronology of the extant portraits of Claudius; 2) the geographical distribution of Claudius' portraits throughout the empire; 3) the relationship between the erection of portraits in honor of Claudius and his administrative, military, and personal activities; and 4) the statue types of Claudius' portraits." Concerning (1) it appears that, since practically all the records of the non-extant portraits of Claudius which can be dated belong to the period of his reign (and more specifically to the periods of his accession, of his British triumph, of his marriage with Agrippina, and finally to the period of the divus Claudius), likewise the extant portraits which cannot be dated are doubtless to be attributed to the same period. A probability that needed no buttressing testimony from the non-extant portraits. Concerning (2) the thing of interest to determine is the degree of the emperor's popularity throughout the empire. For the determination of this an adequate foundation cannot be had with a single group of data. Concerning (3) the chief conclusions are those already implied under (1). Concerning (4) we have the by no means novel information that the emperor's non-extant statues represented him standing togate, nude, seated, on horseback, and riding in a chariot.

Stuart's appendix lists with bibliography 34 statues and busts of Claudius. Of these 21 are listed in the chapter on Claudius in volume II of Bernoulli, *Römische Ikonographie*. Stuart's list of possible portraits contains four items, one known to Bernoulli. Sixteen pieces were rejected by Bernoulli (Stuart, p. 77, note 389); in addition to these sixteen Stuart gives 32 pieces as forgeries or portraits incorrectly identified as Claudius. Half of the 32 items rejected by Stuart are to be found in Bernoulli's catalogue; of these Bernoulli had accepted four, listed one as Tiberius, of two had accepted parts, concerning six had expressed doubt either of their authenticity or of their attribution, and for three had reserved his opinion because the pieces were inaccessible to him. Bernoulli, for all his cavalier neglect of the evidence for non-extant Claudius portraits (Stuart, p. xi, paragraph 1), none the less manages to suffer little in comparison with his successor. Yet Stuart's list is a very welcome modernization of Bernoulli's catalogue of sculpture. It would have been even more welcome, if with each of the previously published items a concise description had been included with the bibliography. The truth is that what is needed is a complete modernization of Bernoulli's work. Let each item have an accurate description, a concise bibliography, a good illustration; if the non-extant portraits must be catalogued, let them go to an appendix. I hope that Mr. Stuart's interest in iconographical studies continues sufficiently strong to cause him to undertake the work—but I hope that he will abandon in citing his literature the weirdly individualistic system of abbreviations which he has seen fit to employ in the Claudius monograph.

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W. SCHADEWALDT. *Homer und die homerische Frage*. Berlin, de Gruyter, 1938. (Sonderabdruck aus "Die Antike" Band XIV.) Pp. 22.

KARL REINHARDT. *Das Parisurteil*. Frankfurt a. M., Klostermann, 1937. (Wissenschaft und Gegenwart No. 11.) Pp. 31.

The Homeric question, according to Professor Schadewaldt, is fundamentally concerned with the nature of the poetical creator and the poetical creation. The greater part of the lecture here printed is an elucidation of this thesis in the form of an interpretative sketch of the history of Homeric scholarship since the time of Wolf. Seeking at first to get along without Homer and to understand the poetry as the immediate product

of the folk, time, tradition, etc., Homeric interpretation, as it became more historical, has been gradually forced back to the poet. That the "analysis" of the poetry itself has moved in this general direction can be recognized, Professor Schadewaldt contends, by three phenomena especially. In the first place, the elements with which the "analysts" reckon have become more and more extensive. Secondly, the general plan of the whole poem has asserted itself more and more markedly, no matter if it be placed at the beginning, middle, or end of the development. Finally, the once abused "redactor" gradually became a "reviser," then a "poet," and at last has become the originator of the plan of the whole, Homer.

For Professor Schadewaldt Homer is a rhapsode, a poet who could write, not an improviser; the *Iliad* is his own structure, built with traditional materials and according to traditional forms but his own just as the building is the architect's own creation even though its stones and beams were taken from older structures. The detailed evidence in support of the portrait of the poet here sketched is reserved for another study (now published in *Abhandlungen der Sächsischen Akademie*, Phil.-Hist. Klasse, XLIII, nr. 6 [1938], pp. iv + 182); the present analysis of the course of Homeric studies at least justifies the author's contention that belief in the existence of the poet and in the poem that we have as his work is a possible working hypothesis and not the worst of those that have come and gone in the history of Homeric criticism.

If the analytical hypotheses have done nothing else they have forced the Homerists to read the text of the *Iliad* with close and serious attention and to abandon the light-hearted assumption of a poet who sang in an unconscious frenzy whatever words the instant Muse put upon his lips; every attempt to "explain" the poem by means of external monuments and historical reconstructions has contributed to the growing awareness that the poem can be understood only by painstaking study of the text itself and by means of the hypothesis that that text is the work of a poetical genius who consciously employed all the materials ready to his hand for a meaningful and artistic purpose.¹ This

¹ Cf. Calhoun, "Homeric Repetitions" (*U. of California Publ. Class. Phil.*, XII [1933], p. 25): "We have gradually learned that in every part of the text is traditional material that can only be the collective work of ages and in every part are touches that can only be from the hand of a great master. We are beginning to suspect that the two cannot be neatly separated. The facts seem to admit the hypothesis of a supremely great poet, working with traditional material, who left the *Iliad* and the *Odyssey* substantially in the form in which we have them."

conclusion is clearly indicated by Schadewaldt's analysis of the course of Homeric studies during the past century and a half; and that analysis is given the most emphatic kind of justification by the contemporaneous appearance of Reinhardt's beautifully incisive monograph on the judgment of Paris.

The point of departure taken by Reinhardt is the ivory comb found in the sanctuary of Artemis Orthia at Sparta and dated by Dawkins about 700-650 B. C. On this comb is depicted the judgment of Paris; and Reinhardt points out that, if this story could be popularly known at the turn of the eighth century, the basis of all the analytical hypotheses as to the oldest stratum of the *Iliad* is upset, for the spirit of the story runs counter to everything that the analysts have considered typically "archaic."²

In both *Iliad* and *Odyssey* stories are occasionally indicated or recounted which could not have been fitted into the epic action even had the poet wished it. Such, for example, is the story of Penelope's web, only twice recounted—and both times in the same words—yet presupposed everywhere by the traditional epithet of Penelope, "the prudent"; the story itself would fit neither the epic action nor the character of the suitors who must be blind with *hybris* but may not be dolts, and it is therefore merely referred to while Penelope's "prudence" is transmuted and manifested in direct situations (e. g. 18, 250-283). So the judgment of Paris is mentioned only once in the *Iliad*; but the import of this narrative transformed into epic situations operates both in the Olympian and in the human scenes. For example, the notion that the factions of the gods in the war reflect historical events (Wilamowitz) collapses when one examines the motives for their specific actions; and Reinhardt shows that the motives of Hera and Athena are essentially different from those of the other gods and that the hatred of these two for Aphrodite and the Trojans everywhere points to the judgment as the presupposition of the situations in which this hatred is expressed. The judgment of Paris makes sense only as the introduction to the story of Troy's destruction; but the motive of the two dissimilar brothers must have been part of this pre-Homeric tale in which the good-for-nothing, "Dysparis," brings to destruction his peerless brother along with the whole city. Hector as brother of Paris is at least as old as Hector the opponent of Achilles (in the *Iliad* the death of Achilles itself is treated as a moment in the opposition of the two brothers and contributes to the tragedy

² Wilamowitz attempted to interpret the seated figure as Zeus instead of Paris, an indication of the implications which the "analyst" saw in the discovery. For a trenchant criticism of the distinction between an "archaic" and a later attitude toward the gods as an analytical criterion of the age of different strata in the *Iliad* cf. Calhoun, "The Higher Criticism on Olympus," *A. J. P.*, LVIII (1937), pp. 257-274.

of Hector), and this part of the story operates in the human situations as the judgment itself does in the Olympian scenes.

Not merely details but the whole divine-human plot of the *Iliad* presupposes the story of the judgment;³ and yet the frame of the poem is the "Wrath of Achilles." This problem is not to be solved by making the "Adventure of Paris" a "later" growth on the kernel of saga; the question concerns the origin of this combination, the spirit in which these two became one. Now the "Wrath" is such a subject as Achilles might sing in his tent, a heroic song. The "Rape of Helen," however, is a novel to which the judgment belongs as cause to effect. This novel was old when the ivory comb was made, old, therefore, when the Greeks first began to colonize the region of Troy; it must have arisen in the time when men remembered the fall of Troy as a wonder and a warning and sought by this story to explain the event. The attitude of the human participants toward the event would have received little attention in the old story; such expressions of emotional attitude belong originally to heroic song. The man who first transmuted the story of Paris into epic situations and looked at it from the point of view of the inner spiritual dissension was the poet of the *Iliad* to whom it occurred to use the traditional form of presentation to create a self-contained world.

Reinhardt's little monograph deserves the rather full outline here given because it is an excellent example of the kind of analysis which alone can lead to a real understanding of the structure of the Homeric poems. Even on the preliminary plane of criticism which consists in distinguishing the "older" and "newer" characteristics of the poems it demonstrates conclusively that dissection rather obliterates than illuminates the difference between the material which the poet used and the form which he imposed upon that material, and it should stand in the history of Homeric studies as another mile-stone on the road leading away from those scholars of whom an American Homerist has said: "Ils goûtent les poèmes homériques comme les gourmets goûtent les artichauts, qu'il faut préalablement réduire en tout petits morceaux."⁴

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³ Reinhardt is apparently unaware that Prof. John A. Scott reached the same conclusion in his paper, "The Choice of Paris in Homer," *Class. Journ.*, XIV (1919), pp. 326-330.

⁴ Calhoun, "Nausicaa et Aristarque," *Revue des Études Homériques*, IV (1934), p. 10.

HERMANN RIEFSTAHL. *Der Roman des Apuleius: Beitrag zur Romantheorie.* (Frankfurter Studien zur Religion und Kultur der Antike, XV.) Frankfurt am Main, Vittorio Klostermann, 1938. Pp. 133.

MARGARETHA MOLT. *Ad Apulei Madaurensis Metamorphoseon Librum Primum Commentarius Exegeticus.* Groningae, M. de Waal, 1938. Pp. xxiv + 122.

Riefstahl's book is a study in comparative literature, and the author is ultimately led to relate the story of the golden ass to examples of the *Bildungsroman* in German literature which, often in the form of ego-narrative, trace the development of the individual through his contacts with the external world (pp. 95-125). At the same time the romance of Apuleius is presented as an artistic unit, not merely an aggregate of loosely connected episodes, and as an issue of the writer's intellectual interests and personality, "ein künstlerisch gestaltetes Anschauungsbild der existenziellen Lebensgrundlage des Neuplatonismus" (p. 133).

The hero, Lucius, is an isolated entity, without any close contacts with the life of the community, with no definite occupation, no fixed scheme of life. As a human being he roams from place to place. His aloofness is accentuated when, in his transformation, he is isolated not only from human beings but from other animals (p. 27). As a means of escape from this isolation he turns to magic, but the effect of magic is only to enrich his knowledge of the world and his experience. His actual escape is attained only in comprehension of the *Allgötheit* and in mystical union with it through the mysteries of Isis (p. 48).

Some of the general line of thought is dimly foreshadowed in the old commentaries of Beroaldus and Bosscha, and more recently (1933) by Braga; Kerényi has emphasized religious propaganda in Apuleius' work as well as in the Greek romances. But Riefstahl approaches the story from the standpoint of an aesthetic critic, eschewing historical criticism (pp. 4-8) and establishing the artistic unity of the work and its harmonious relation to what is known of Apuleius' philosophical creed. No reader can deny that, without some such philosophical conception of Apuleius' purpose, the supposedly autobiographical eleventh book of the narrative stands as a more or less detached episode at the conclusion of the work. On the other hand one hesitates to inflict upon the simple story of the first ten books philosophic considerations expressed in pretentious terminology and deplores a tendency to squeeze out of this part of the romance confirmatory evidence of an underlying philosophy. The author

is not insensitive to the concrete details as well as the philosophical implications and draws a good picture of the cultural background of the narrative (pp. 50 ff.). The eleventh book is often easily compared with portions of Apuleius' philosophical treatises though even here Riefstahl is somewhat fanciful (e. g. pp. 49-50); but in finding symbolism in the *Eselsgestalt* of the hero, and in straining the significance of *multiscius* and of the hero's notable curiosity (pp. 27-29) to fit his theory, the author hardly conciliates even a sympathetic reader.

Even in an aesthetic appreciation one can hardly neglect some historical considerations. Lucian's *Asinus* clearly indicates that Apuleius reflects a Greek original in the main outline of action as it appears in the first ten books of the Latin version. If Apuleius added the eleventh book as a new conclusion to the story it is rather surprising that one should find in the first ten books any significant traces of philosophical conceptions which serve to integrate the earlier portion of the narrative with the concluding book. Nor may one safely stress differences between Lucian and Apuleius (pp. 37-44) if Lucian's version is a rough abbreviation of the same Greek original. The study of sources is obnoxious if it ends in mere description of sources but Riefstahl leaves us, despite his admirable aesthetic purpose and stimulating theory, with a fear that we may be floundering in a deep sea of philosophical abstractions.

Modern commentary on Apuleius' story is so desirable that even a fragmentary portion is welcome. The work by Margaretha Molt contains a helpful bibliography, and brief sections on the sources, date of composition, structure, and style. One would expect, as more pertinent to commentary on the first book, a full treatment of the perplexing problems of the prooemium, which are too briefly dismissed on pp. 3-4 and in the commentary on the preface. The commentary itself is without distinction and seldom goes so deep as to add much to our knowledge. I limit myself to a few adverse or commendatory remarks:

1, 13: *forensis* contains no reference to the Roman forum, as the comment seems to imply. The commentator understands it correctly as a synonym of *exotici* but why the clause "qua in foro Romano homines utuntur"? 2, 2: the difficult *desultoria scientia* is interpreted as a reference to magic; as the author has transformed his language from Greek to Latin, so magic in the narrative has metamorphosed human beings. This is a reversion to older views, and has at least the advantage of giving *scientia* its proper value. 4, 23: *modico secus* is interpreted as "aliter ac modicum erat," perhaps the worst error of judgment in the commentary. One should at least quote and use the *paulo secus* of *Florida*, 16 (Helm, p. 24, 2) to reach an understanding of the phrase, not to mention the use of *secus* as a mere suffix in ad-

verbs such as *forinsecus*. 4, 12: it may be doubted whether *generosum* means "nobilem, divinum." From the etymology and the context one should discover the force of "spirited." 4, 7: Helm, as well as the commentator, should be condemned for taking *occipitium* as anything but an anatomical word. It is the back of the head, naturally thrown as far back as possible to receive the spear and so seeming to be lower than the throat. 5, 2: it is a queer form of statement to say (on *qui sim*) that *qui* is a relative pronoun used for the interrogative. 6, 3 *tu . . . larvale simulacrum* means more than merely "tu . . . quasi larva." 6, 21: here, I think, the reading of the MSS (except for *timida*) should be preserved: "iam adlubentia proclivis est sermonis et ioci et scitum et cavillum, iam dicacitas <in>timida." The two *iam*'s bring out the balance between the two nominatives, the three *et*'s connected four genitives and reveal *scitum* and *cavillum* as genitive plurals, not nominatives. Emendations are superfluous. 9, 11: the objection to Löfstedt's explanation of *quae cum subinde* is based on the fact that other examples are found only in later writers. One wonders what would become of most of Löfstedt's investigations if that were a valid objection. 15, 19: the questions both of text and meaning are unsatisfactorily handled. The MSS-reading is wholly sound in my opinion: there is no occasion to eliminate *pater meus*. In the vocative expressions one says in Latin *pater mi* and *frater mi*, but not *comes mi*; therefore, when these are quoted in the form of nominatives, the result is *comes et pater meus et frater meus*. Nor is there any sound objection to the use of any one of these as endearing expressions in this context.

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MARIA DE COLA. Callimaco e Ovidio. (Studi Palermitani di Filologia Classica, 2.) Palermo, Casa Editrice Trimarchi, 1937. Pp. 131.

Two monographs have now appeared in this new series of classical studies, published under the direction of the distinguished Hellenist, Professor Lavagnini of Palermo. The first study¹ discussed the relation of Martial to the Greek epigram. The second, the monograph under review, is devoted to the analogous problem of Ovid and Callimachus.

Knowledge of the text of Callimachus has grown notably during the last thirty years owing to the publication from time to time of papyrus finds, especially in the *Oxyrhynchus Papyri*, the

¹ Orsola Autore, *Marziale e l'Epigramma Greco*, 1937.

Papiri della Società Italiana and the *Papiri d. r. Università di Milano*. These data have been utilized to elucidate details by Malten, Heinze, Pfeiffer, Wilamowitz, Cahen, Rostagni, Coppola, and many others; but none of these scholars has studied anew in the light of them the comprehensive question of the dependence of Ovid upon Callimachus. This lacuna the author of the present work attempts to fill, with paramount emphasis upon the *Metamorphoses* and the *Fasti*.

The four chapters into which the book is divided treat the topic chronologically: (1) *Callimaco nelle opere giovanili di Ovidio*, (2) *nelle Metamorfosi*, (3) *nei Fasti*, and (4) *nell'Ibis*. In the first group, De Cola deduces, the influence of Callimachus is slight, limited to an occasional phrase, an epigrammatic motif, or to the suggestion of a subject which Ovid will then develop in a manner entirely alien to that of his model. In the art of the *Metamorphoses*, Callimachus (and, in particular, the *Aitia*) plays a more important rôle. Though the conception of a collection of transformations comes to Ovid only indirectly, through Nicander and Parthenius, they in turn were influenced directly by the *Aitia*; and in the working out of single episodes, in the appropriation of certain legends, and in the employment of definite technical devices of framework, Ovid shows the immediate inspiration of Callimachus. The *Fasti* leans more heavily still upon the Cyrenian. Ovid drew his erudite material from the *Antiquitates* of Varro and arranged it according to the model furnished by the *Aitia*; the structure of the *Fasti* is that of Callimachus and as the Hellenistic poet is ever present, speaking personally in his poem, so it is with Ovid in the *Fasti*. In the *Ibis* the influence of Callimachus and Alexandrinism upon Ovid reaches its culmination. Ovid found in the Greek *Ibis* both the suggestion for his Latin poem, and the plan of the work: *devotiones-historiae*, maledictions against an enemy in the first part and, in the second, a series of tragic fates drawn from history and myth called down upon the head of his unhappy foe. In the other poems of exile literary origins are negligible: we have the poet speaking sincerely, however weakly and unworthily, and the break with the spirit of Alexandrinism is complete.

Such are the conclusions of this treatise, briefly summarized. A careful reading of the detailed process, however, by which they are arrived at leaves the reader with no deep conviction of their finality. In this type of study, argument from assumptions, which may or may not be true, holds too large a place. For all our debt to the papyri, the fragments of the *Aitia* are even now lamentably few and its artistic framework and development still indeterminate. To accept other scholars' reconstructions of the *Aitia*, assembled from all possible sources including the works of Ovid, and then to deduce from this synthetic Callimachus the relation of the Roman poet to the Greek in the broader matters

of technique leads nowhere. Yet De Cola, while frequently protesting against it, is only too prone to follow this method.

Again the author detects conscious imitation in details where parallels are almost unavoidable: coincidences of vocabulary, turns of phrase, metrical echoes, motifs, and versions of myth. These are cited at length, whereas, granted the nature of Roman education in Ovid's day, Greek literature of necessity formed a large part of the *lingua franca* of all cultured men and unconscious reminiscences would be inevitable. But even so, the collection and discussion of these parallels was a thing worth doing, provided the limit of their import is understood. In fact, not the least useful portion of the study are two tables of the parallel passages which are discussed, one arranged in the order of the works of Ovid, the other in the order of the fragments of the works of Callimachus. Here is convenient material for other students.

In spite of a certain lightheartedness in the checking of references and in proofreading, which rarely however causes confusion, the author is to be congratulated on producing a conscientious and serviceable study and one written in a style which is singularly frank and clear. Her skillful utilization of the *ΔΙΗΘΗΣΕΙΣ*, brief summaries of the poems of Callimachus which were discovered in a Tebtunis papyrus in 1934 and published by Norsa and Vitelli, is characteristic of the admirable command which she everywhere displays of the vast bibliography, especially in the field of the recent papyrus finds. Furthermore, the originality of Ovid's art is nowhere impugned, but everywhere affirmed—a welcome variation of the usual refrain.

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ELIZABETH VISSER. *Götter und Kulte im ptolemäischen Alexandria*. Amsterdam, N. V. Noord-Hollandsche Uitgevers-Mij., 1938. Pp. 131. (Allard Pierson Stichting, Arch.-hist. Bijdragen, V.)

The city of Alexandria was never a village. Suddenly, as if he were wielding the power of his father Zeus, its great founder created in the desolate delta an area of low barometric pressure. Like clouds scudding before the wind, the populations of the civilized world poured into the vacuum. A city without a past, without legends, without traditional institutions, became instantly the most cosmopolitan, and shortly the greatest, city in the world. Nominally a Greek city, it was occupied by men from every corner of the eastern Mediterranean, Greeks, Macedonians, Syrians, Asiatics of every kind, and of course Egyptians. For

three hundred years, until Alexandria and Egypt became a part of the Roman empire, this polyglot throng was governed by descendants of the Macedonian Ptolemy. Of the religious life of this city, within this period, the author of the present dissertation undertakes to render an account. But she imposes immediately necessary limitations on the scope of her inquiry. She not only confines herself to the Ptolemaic period and the city of Alexandria itself, omitting from consideration the rest of Egypt and the Hellenistic world in general; she also directs her attention solely to the religion of *Greeks* who were resident in Alexandria. Furthermore, the evidence which she employs for her reconstruction she obtains solely from written documents,—the ancient authors, papyri, and inscriptions. By way of explanation of her disregard of archaeological material she points out that the factor of uncertainty in this material is very great, that the greater part of it is difficult to date, that the part of it which relates to religion belongs mostly to the imperial period, that excavations in Alexandria have yielded little of value for the Ptolemaic period, and that this little is difficult of access. Coins alone, which can be surely dated, she has used freely. We may accept these conditions in reading the dissertation, but we may still suspect that something might have been learned from archaeological sources. Precisely what the author has done is to collect the evidence for all Greek cults in Alexandria and to discuss each cult separately. Every possible god is studied as a candidate for a place among the gods to whom Greek cults were addressed, and his credentials are examined in detail,—theoporic names, deme names, decrees, dedications, direct evidence in literature and papyri. In many cases the discussion turns principally on the question whether the god in question was the object of a Greek cult or an Egyptian cult. In view of the long-standing identification of Greek and Egyptian gods, this question is one of great delicacy, especially as it appears that sometimes gods referred to by Greek names were the objects of particularly Egyptian cults, and sometimes the Greeks had adopted the worship of native Egyptian gods. One wonders whether in the actual life of Alexandria the distinction was so clear as the author tries to make it for the purpose of her dissertation. In general, the discussion is of the nature of a commentary on the evidence, and there is scarcely a page of continuous discourse, narrative, descriptive, or argumentative. By way of supplement, and to introduce some measure of human values, the author adds an essay on religion in the Hellenistic poets. Though this is confessedly only a sketch, it is circumspect, discreet, and reliable. Many shrewd things are said, and there is sensible and understanding criticism. The most valuable part of the dissertation, however, as the author herself points out, is

the Quellenverzeichnis (pp. 65-101), together with a Verzeichnis alexandrinischer Bürgernamen (pp. 103-127). The latter, it may be remarked, is particularly useful because it is not confined to the Ptolemaic period. The abbreviations of the titles of books and articles will be troublesome to readers who are not so familiar with the literature as the author herself, and the dates of publication are too often omitted. Whether the list of sources is reasonably complete can be determined only by specialists in their use of the book.

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R. P. AUSTIN. *The Stoichedon Style in Greek Inscriptions.* (Oxford Classical and Philosophical Monographs.) London, Oxford University Press, 1938. Pp. xii + 130; 14 plates. \$3.50.

This book, the first of its kind, is devoted entirely to one pattern used in the cutting of Greek inscriptions. From such studies important results have begun in late years to follow: the method is right. Austin sticks to his subject and gives us a straightforward history: origin aesthetic, place Attica, date not before *ca.* 550 B. C.; development slow, with only 24 stoichedon inscriptions known before 480 B. C. (list, p. 7); the style dominant, but not used exclusively, down to *ca.* 300 (long surveys: Attica, ch. VI; elsewhere, ch. VII); then, for economic reasons, "the decline"; the rather sudden end, *ca.* 225; and an occasional archaistic use later.

There are some keen observations and sound ideas: that public documents down to *ca.* 490 B. C. were almost never engraved on stone; that early "stoichedon" inscriptions often show vertical strokes of letters in vertical alinement (e. g. the epitaph of Phrasikleia, *I. G.*, I, 1014 a, of which Austin provides a much improved drawing: this he says may be the earliest stoichedon inscription); that after *ca.* 485 B. C. stoichedon is based on a chequer pattern drawn on the stone before letters were cut—the chequers actually inscribed are listed on p. 28; and he suggests that publications should give the measurements of the vertical and horizontal intervals between the one-time-existent chequer-lines. He studies how the desire to end lines with syllables (or words), a tendency which showed itself rarely before 300 B. C. in decrees (other classes of documents are also well studied on pp. 46-49), modified the pattern; he is the first to print an account of the tribute-quota lists as respects stoichedon, recognizing in general the true procedure used in the headings by the lapidaries, namely a loose stoichedon wherever chequers were not first drawn on the stone; and he discovers an interesting tendency to abandon stoichedon in 411-403 B. C.

All this, and much more, is good to have. Various particulars had better be discussed elsewhere; if the book has a general weakness, that weakness arises from sticking too close to the history, to the neglect of method. Hardly a single text is significantly improved, or dated more accurately. An attempt, for instance, to restore the heading of the tribute-quota list *S. E. G.*, V, 8 would have shown the need for a precise definition, and a working test, of strict stoichedon; also for a classification of its variants. Margins, which are sometimes of crucial importance, and which had to be considered by the lapidary whether or not he laid out a chequer, are not mentioned. "The decline," actually a period of ups and downs, of experiments, and of good new achievements, could profitably have been studied more closely. His weakness in this period is most evident, since he has been anticipated in some points and has missed others: cf. Dinsmoor, *Archons of Athens*, p. 5; and I may perhaps refer to *Hesperia*, II (1933), p. 442; *A. J. A.*, XL (1936), pp. 62-65 and 175; *Harv. Stud. Class. Philol.*, XLVIII (1937), pp. 140-149. W. S. Ferguson's *Tribal Cycles* has definitely supplanted Dinsmoor's *Archons of Athens* for the dating of second century archons (Austin, p. 113).

Closer attention to inscriptions which are not stoichedon would likewise have been profitable for details and for a general perspective. The stoichedon pattern was used commonly for only about 260 years in Athens (*ca.* 485-*ca.* 225 B. C.), for a shorter period elsewhere; and it never held a monopoly. A prime reason for this is not economy nor incompetence but the fact that, even apart from the ends of lines, stoichedon inscriptions are not as easily legible as those which are not stoichedon. Vertical alinements within a continuous text mislead the eye, and in fact are avoided by modern printers. The explanation of why the Athenians used stoichedon as much as they did must be found in their love of logical orderliness, plus conservatism.

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W. W. TARN. *The Greeks in Bactria and India*. Cambridge, University Press; New York, The Macmillan Co., 1938. Pp. xxiii + 539. \$8.

This is one of the great books in the field of ancient history. An occasional Schliemann may recover an epoch of human history by excavation, but rarely does the historian have this good fortune by the mere utilization of existing materials. In order to see what Tarn has really done, one has only to look, for example, at the *Cambridge History of India*, or at Cary's *Legacy of Alexander*, or at the excellent sketch which appeared last year

in Newell's *Royal Greek Portrait Coins*. The fact, however, is that we have understood neither the significance nor the course of Bactrian history, which is hardly surprising in view of the fragmentary evidence. It is no exaggeration to say that Tarn has recovered what can be recovered of the story of the fifth Hellenistic dynasty, which must now be treated as part of the history of Hellenism, and not as part of the history of India, where it has no meaning.

Throughout his book Tarn is careful to say, when necessary, "this is theory, not fact"; indeed, his book will undoubtedly lead to further studies. But this is not the place for details. The significance of the Greek kingdom of Bactria and India is this: Whereas the other Hellenistic kingdoms were not voluntarily limited by the rights of the native subjects, except in religious matters, the Bactrian Greeks tried to put into practice Alexander's dream of coöperation between peoples. We see this most clearly in Demetrius' organization of his broad realm, which stretched from the Jaxartes to Barygaza, and from the Persian desert to the middle Ganges; in his creation of Taxila, his capital, as an Indian rather than a Greek city; in the bilingual coinage; and in his admission of Indians as citizens of Demetrias in Sind, which was contrary to the Seleucid practice with regard to Greek cities with dynastic names. Demetrius was to be an Indian king no less than a Greek one. The explanation of his rapid conquest and the extraordinary distances he traversed, which would have been impossible had he, like Alexander, met consistently hostile peoples, is to be found in his wise use of Buddhists as political allies, for India was then torn by religious dissension.

Demetrius had inherited many of the ideas of his father, Euthydemus, and of Alexander. Unlike any of the other Successors, the Euthydemids gained the support of Iran, which Alexander had recognized as vital. Thus, for the first time, we understand that "the thousand cities" of Bactria means that the Euthydemids so raised the general level of the serf population, and therefore of the villages, that the serf village evolved into an organized and quasi-autonomous township. This was one of the most important things done by the Greeks in Asia, for it was this which really touched the native mass.

There is no space to show how this book ties in with and illuminates the West, though there is a lucid description of the Seleucid settlement of Asia. Antiochus IV does, however, emerge as something of a statesman, and not as half a fool. Why did he revise the legend on his coinage and, abandoning the Apollo type, exhibit Zeus with his features? Why was he willing to leave Egypt, when brusquely ordered out by the Roman envoy? And what was the meaning of his extraordinary festival

at Daphne, a regular Roman triumph? He had a plan, to re-found Alexander's empire in the East, since Rome was shutting him off from the West, and he was succeeding. Eucratides, then, conquered Bactria as his lieutenant; he was no Bactrian rebel, though he led a rebellion in the name of the reigning Seleucid.

Tarn's main period is the half-century between 206 and 145 B. C., roughly the reigns of Euthydemus, his son Demetrius, and Demetrius' son-in-law Menander. The other Bactrian kings, however, find their place. But there is much else; the date of "Trogus' source," which is so important, is put at about 85 B. C.; the reconstruction of the wanderings of the nomadic hordes of Central Asia sounds convincing, though I know nothing about the subject; and Gandhara art definitely began in the first century B. C. The book is written in a graceful style and concludes with an excursus on the Milindapanha, twenty-one appendices, a plate of coin-portraits, a pedigree of the Euthydemids and Eucratides, and three maps.

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FRANCOIS THOMAS. Recherches sur le développement du pré-verbe latin *ad-*. Paris, Librairie C. Klincksieck, 1938. Pp. xx + 107.

This monograph traces the semantic development of Latin *ad* in verbal composition. Starting with the original local use of the designation of proximity, it developed various figurative meanings and finally became attenuated so that in many instances it became a mere "prosthetic" element which added nothing to the sense. Such a growth is a complex affair which involves the recognition of so many factors in semantic development that it is difficult to do justice to all of them in a hundred pages, and the author therefore had to limit himself to such aspects as seemed particularly important. He also had to take for granted the original sphere of *ad*, although, for instance, the question whether it at one time always implied motion, as suggested by the invariable accusative case governed by it, is not without effect also on the history of the verbal prefix *ad-*. Only by deciding this question could one know whether the compound *adesse* "be present" is due to a pregnant use of *ad* (be present as the result of arriving), or whether the verbal compounds of this type continued the wider IE use of the prefix, which is reflected in Gothic by the occurrence of *at* with dative as well as accusative.

The derived uses of *ad-* the writer treats under four captions. The first is the so-called middle use (accepted only with qualifications), e. g., *accipio* "I take to (myself)," or "I accept" can be rendered by the middle of a word meaning "to take" in

Greek. Quite properly the author recognizes that this is merely incidental, that the prefix was here conceived in its original meaning, and that its use as a substitute for the middle voice never became established as an independent category.

The chapter on the second derived category is entitled "Sens additif et sens intensif." Thus from *addo* "place at the side of" and then "add" the prefix went to words like *adsumo* "prendre en ajoutant, s'adjoindre, ajouter." The latter illustrates another complexity which has not been recognized sufficiently. In its original use *adsumo* "I take to (myself)" shows the proper local sense of *ad*. Did the derived meaning "ajouter" develop within the compound itself without analysis of its two parts, or is it merely a development of the meaning of the prefix apperceived as a distinct element? Obviously Mr. Thomas would have to answer this question before he can legitimately use such a word as evidence for the semantic history of *ad*.

A third derived value is established as "amener à un procès," which is recognized as a figurative use of the original meaning of motion to a place. He compares *accedo e l urbem* "I approach the city" with *addormisco* "I am approaching the sleeping stage, I am going to sleep."

As the last derived category the author classifies that in which *ad-* is a mere prosthetic element, i. e., an element which has lost its distinctive sense altogether, e. g., *adsumo* later became equivalent to *sumo*.

Undoubtedly Mr. Thomas has made an interesting and on the whole persuasive contribution to the history of verbal prefixes. That opinions will vary on many an individual case is self-evident and cannot be avoided. Were one to criticize his point of view in general, two principal objections present themselves. He has not recognized sufficiently the semantic grouping of words into congeneric classes, the patterning of one associated word after another, a factor in the development of all formatives, which is often more important than their meaning as abstracted by semantic analysis, but often without distinct apperception by the speaker. The second main criticism concerns the failure of the author to recognize that semantic classifications may have more of a descriptive than an historical value, and that many examples can be classified in more ways than one. In the case of *adsumo*, repeatedly mentioned above, there would e. g. be many occurrences for which only the original speaker or writer could have decided the question whether he used it mechanically as equivalent to the simplex *sumo*, which would make *ad-* a "prosthetic element," whether he thought of the prefix as emphasizing the meaning of the verb, or whether he still had in mind the original local sense of designating proximity.

ADELAIDE DOUGLAS SIMPSON. *M. Minucii Felicis Octavius. Prolegomena, text and critical notes.* New York, 1938. Pp. 110.

Miss Simpson lays all college Latin teachers under obligation, for she gives us here, in her Columbia University thesis, an admirable edition of a charming and thoughtful little book which is highly suitable for classes in Latin literature; I have found that students always enjoy it. The *Octavius* is mild and reasonable Christian apologetics, far removed from the fiery rhetoric of Tertullian or the contemptuous argumentation of Jerome. It reads like Cicero or Seneca; it seems impossible that anything so urbane could have been published after Tertullian. Miss Simpson summarizes the wealth of discussion over its date, and prefers the period of Antoninus Pius. Her edition is based on Waltzing's, and gives the variants of P; it is obvious that much remains to be done in constituting the text. She has also made a thorough study of the metrical clausulae on which she concludes: "It is very much a matter of doubt whether the accentual cursus can be discovered in Minucius"; and yet, in the passage she transcribes on p. 23 as a typical period (VI, 2), out of 19 clausulae, 18 are correct accentually. It is a pity no one seems to have followed up A. C. Clark's and my observations on the accentual clausula in Latin as far back as Petronius; such a study will be most repaying.

Miss Simpson has wide command of all that has been written in ancient and modern times, dealing with Minucius; her bibliography is exhaustive. She is to be congratulated on her accurate and scholarly presentation of one of the most delightful essays in all literature.

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The Journal wishes to call attention to the recently established Department of Indic Studies at the Library of Congress. The study of Indic literature, philosophy, religion, law, sciences, art, archaeology, history, anthropology, social institutions, linguistics, current political trends, etc. will be developed—the term "Indic" denoting not only India proper but all contiguous territories influenced by Indic culture, Burma, Ceylon, Siam, Indo-China, Java, Sumatra, Bali, Central Asia, and Tibet. The aims of the department are to explore and supplement existing Indic materials in the Library of Congress; to establish an American center for the collection, systematization, and dissemination of Indic bibliographical data; and to coöperate with scientific bodies and individual scholars in the Indic field.

BOOKS RECEIVED.

- Bendz (Gerhard). Index verborum Frontiniani verba quae Strategematis continentur cuncta complectens. Lund, *C. W. K. Gleerup*, 1939. Pp. 92. (Lund Univ. Arsskrift, N. F. Avd. 1, Bd. 34, Nr. 4a.)
- Buckler (W. H.) and Calder (W. M.). Monumenta Asiae Minoris Antiqua, VI. Monuments and Documents from Phrygia and Caria. Publ. for the Am. Soc. for Arch. Research in Asia Minor by the *Manchester Press*, 1939. Pp. xxii + 166; 73 plates.
- Bulletin du Cercle Linguistique de Copenhague, IV (Ann. 1937-38). Copenhagen, *Einar Munksgaard*, 1939. Pp. 18. D. Cr. 2.
- Cohoon (J. W.). Dio Chrysostom, II. Cambridge, *Harvard Univ. Press*, 1939. Pp. vi + 435. (L. C. L.)
- Colson (F. H.). Philo, VIII. Cambridge, *Harvard Univ. Press*, 1939. Pp. xxiv + 458. (L. C. L.)
- Corbett (James). Catalogue des manuscrits alchimiques latins, I: Manuscrits des bibliothèques publiques de Paris antérieurs au XVIIIe siècle. Bruxelles, *Sec. administ. de l'union académique internationale*, 1939. Pp. 365.
- Deferrari (Roy J.), Barry (Sister M. Inviolata), McGuire (Martin R. P.). A Concordance of Ovid. Washington, *Catholic Univ. of America*, 1939. Pp. ix + 2220.
- Della Valle (Guido). Gaio Memmio dedicatario del poema di Lucrezio. Rome, *Bardi*, 1939. Pp. 731-886. (Accad. dei Lincei, *Rendiconti*, XIV, fasc. 7-12.)
- Deutsch (Rosamund E.). The Pattern of Sound in Lucretius. Diss. Bryn Mawr, 1939. Pp. viii + 188.
- Donnelly (Francis P.). Cicero's Manilian Law. New York, *Fordham Univ. Press*, 1939. Pp. x + 93. \$.75. (Fordham Univ. Classics.)
- Downey (Glanville). A Study of the Comites Orientis and the Consulares Syriae. Princeton, 1939. Pp. 22. (Abstract.)
- Evans (Elizabeth C.). The Cults of the Sabine Territory. Pp. xv + 254; 7 plates. (Papers and Monographs of the Am. Acad. in Rome, XI, 1939.)
- Guthrie (W. K. C.). Aristotle, On the Heavens. Cambridge, *Harvard Univ. Press*, 1939. Pp. xxxvi + 378. (L. C. L.)
- Harrison (Thomas Perrin, Jr.) and Leon (Harry Joshua). The Pastoral Elegy, An Anthology. Edited with introduction, commentary, notes, and translation. Austin, *Univ. of Texas*, 1939. Pp. xi + 312.
- Havelock (E. A.). The Lyric Genius of Catullus. Oxford, *Blackwell*, 1939. Pp. xii + 198. 8s. 6d.
- Hubaux (Jean) and Leroy (Maxime). Le mythe du Phénix dans les littératures grecque et latine. Paris, *E. Droz*, 1939. Pp. xxxvi + 266. 90 fr. (Bibl. de la Fac. de Phil. et Let. de l'Univ. de Liège, LXXXII.)
- Jaeger (Werner); translated by Gilbert Highet. Paideia, The Ideals of Greek Culture. Oxford, *Blackwell*, 1939. Pp. xxix + 420. 15s.
- Johnson (Roselle Parker). Compositiones Varias from Codex 490, Biblioteca Capitolare, Lucca, Italy. Urbana, *Univ. of Illinois Press*, 1939. Pp. 116. \$1.50. (Illinois Stud. in Lang. and Lit., XXIII, No. 3.)
- Jones (Charles W.). Bedae Pseudepigrapha: Scientific Writings Falsely Attributed to Bede. Ithaca, *Cornell Univ. Press*, 1939. Pp. xv + 154. \$3.
- Jouai (L. A. A.). De Magistraat Ausonius. Nijmegen, *J. J. Berkhout*, 1938. Pp. 279.
- Kowalski (Georgius). Commentarium Codicis Vaticani Gr. 107 in Hermogenis *περί σράσεων* et *περί εὐρέσεων* cum scholiis minoribus in omnia praeter praeexercitamenta opera. Leopoli, 1939. Pp. lii + 159; 1 plate. (Acta Sem. Phil., II, fasc. 5-7.)

von Kraus (Carl). *Des Minnesangs Frühling Untersuchungen*. Leipzig, *S. Hirzel*, 1939. Pp. xii + 475. 25 M.

La Flesche (Francis). *War Ceremony and Peace Ceremony of the Osage Indians*. Washington, *Gov't. Printing Office*, 1939. Pp. vii + 280; 13 plates; 1 fig. (Smithsonian Inst., Bur. of American Ethnology, Bull. 101.)

Lindskog (Cl.) and Ziegler (K.). *Plutarchus Vitae*, IV, 2: Indices. Leipzig, *Teubner*, 1939. Pp. xxxvi + 266.

Mendner (Siegfried). *Der Text der Metamorphosen Ovids*. Bochum-Langendreer, *H. Pöppinghaus*, 1939. Pp. 81.

Merkx (P. A. H. J.). *Zur Syntax der Kasus und Tempora in den Traktaten des hl. Cyprian*. Nijmegen, *Dekker & van de Vegt*, 1939. Pp. xv + 141. fl. 3.50. (*Latinitas Christianorum Primaeva*, fasc. 9.)

Middelmann (Franz). *Griechische Welt und Sprache in Plautus' Komödien*. Bochum-Langendreer, *H. Pöppinghaus*, 1938. Pp. 116.

Moreau (Joseph). *L'âme du monde de Platon aux Stoïciens*. Paris, *Les Belles Lettres*, 1939. Pp. 200. 40 fr.

Moreau (Joseph). *La construction de l'idéalisme Platonicien*. Paris, *Boivin & Cie*, 1939. Pp. 515. 75 fr.

Murray (A. T.). *Demosthenes, Private Orations*, II. Cambridge, *Harvard Univ. Press*, 1939. Pp. viii + 419. (L. C. L.)

Oellacher (Hans). *Griechische literarische Papyri II*, mit Autoren-, Namen-, Wort-, und Sachindex zu I und II von Hans Gerstinger und Peter Sanz. Baden bei Wien, *Rudolf M. Rohrer*, 1939. Pp. 108; 1 plate. (Mitt. aus der Papyrussammlung der Nationalbibliothek in Wien [Papyrus Erzherzog Rainer].)

Oldfather (C. H.). *Diodorus Siculus*, III (Books IV-VIII). Cambridge, *Harvard Univ. Press*, 1939. Pp. v + 433. (L. C. L.)

Pearson (Lionel). *Early Ionian Historians*. Oxford Univ. Press, 1939. Pp. viii + 240. \$5.

Préaux (Claire). *L'économie royale des Lagides*. Bruxelles, *Fondation égyptologique Reine Elisabeth*, 1939. Pp. 646.

Robertson (A. J.). *Anglo-Saxon Charters*. Edited with translations and notes. Cambridge, *Univ. Press*; New York, *Macmillan Co.*, 1939. Pp. xxv + 555. \$8.

Roussel (Pierre). *Sparte*. Paris, *E. de Boccard*, 1939. Pp. 216; 16 plates.

Schläpfer (P. Lothar). *Untersuchungen zu den attischen Staatsurkunden und den Amphiktyonenbeschlüssen der Demosthenischen Kranzrede*. Paderborn, *F. Schöningh*, 1939. Pp. 246. M. 12. (Rhet. Stud. Univ. Nymwegen, Heft 21.)

Stella (Luigia Achillea). *Importanza di Alcmeone nella storia del pensiero greco*. Rome, *Bardi*, 1939. Pp. 55. (Accad. dei Lincei, *Memorie*, VIII, fasc. 4.)

Wallace (Edith Owen). *The Notes on Philosophy in the Commentary of Servius on the Eclogues, the Georgics, and the Aeneid of Vergil*. Columbia Univ., 1938. Pp. 200.

Westington (Mars McClelland). *Atrocities in Roman Warfare to 133 B. C.* Chicago, distrib. by Univ. of Chicago Libraries, 1938. Pp. iii + 139.

White (H. G.) and Oliver (James H.). *The Temple of Hibis in El Khargeh Oasis, Part II: Greek Inscriptions*. Pp. xiii + 71; 13 plates. \$3.50. (Metropolitan Museum of Art, *Egyptian Exped. Publ.*, XIV, 1939.)

Wijnberg (S.). *Antiphon's eerste Rede mit vertaling en commentaar*. Amsterdam, *H. J. Paris*, 1938. Pp. 162.

Young (Rodney S.). *Late Geometric Graves and a Seventh Century Well in the Agora, with an Appendix on the skeletal remains: Geometric Athenians*, by J. Lawrence Angel. Athens, *Am. School of Class. Stud.*, 1939. Pp. ix + 250; 156 figs. (*Hesperia*, Suppl. II.)